

Exploring the factors underlying successful publication following  
participation in an Author Assist service

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## ABSTRACT

Author Assist is an initiative of the African Journal of Emergency Medicine (AfJEM) that pairs an experienced researcher with an author recently rejected for publication to assist with revision of the rejected article. This study explores the factors of the assistance process within partnerships that have achieved successful publication after resubmission and blind peer-review. It aims to improve Author Assist's ability to facilitate successful publication by identifying potential areas of focus that impact individual researcher development. A grounded theory, qualitative approach first looks at the assistance process for seven individuals via semi-structured interview. Structured surveys with a wider sample size of authors then provide feedback on specific components of the process and inform recommendations for improvements to the programme. Interviews are analysed by deductive placement of themes into inductively-developed categories.

Participant stories within the African acute care context tend to be consistent with available literature describing current global challenges in overcoming barriers to scientific research and publication. Recounts of the Author Assist process are overwhelmingly positive, and frame the programme as a worthwhile, albeit time consuming, initiative that makes a substantial difference in the professional development of individuals, their ability to take on mentorship roles themselves, and their future success in scientific publication. Inductive build-up from interviews of effective components of the process, and suggestions for progression of the programme are confirmed by responses from other past participants. Common themes arising from author feedback include perceived pressure by assistants to complete work on time amidst other career demands; the effectiveness of the partnerships in addressing issues of language, structure, and submission requirements; and the desire for the programme to encompass the full research process. Assistant themes tend to mirror those of the authors. In addition, assistants suggest a more involved manuscript assessment by the journal, prior to commissioning a partnership. Also suggested is a redesign of the assistant database to categorise by type of assistance offered, rather than by topic expertise. The findings from this study confirm Author Assist's unique niche within emergency care development, and its effectiveness in supporting individual research careers. A number of reasonable and low cost improvements to the programme have been put forward for AfJEM to improve ability to facilitate successful publication.

## DECLARATION

I, MEGAN E BANNER, hereby declare that the work on which this thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university.

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## Chapter 1 - INTRODUCTION

### 1.1 Background

#### 1.1.1 Emergency care development

Low-income countries suffer some of the highest rates of mortality from injuries and the acute complications of communicable diseases— including malaria, tuberculosis, and HIV—and non-communicable diseases like cardiovascular disease and diabetes (1,2). Accounting for 10% of the total burden of disease, more than five million people are killed by violence and injury and another 100 million wounded every year, with 90% of these incidents occurring in low- and middle-income countries (2–4). Ninety one percent of the world’s road traffic incident fatalities occur in low- and middle-income countries, as do the vast majority of the 265,000 annual global burn mortalities. Yet studies suggest that fewer than half of hospitals—and as little as 19% in some areas—in sub-Saharan Africa have the capacity to deliver 24-hour emergency care (4).

The International Federation for Emergency Medicine defines Emergency Medicine as:

*“A field of practice based on the knowledge and skills required for the prevention, diagnosis and management of acute and urgent aspects of illness and injury affecting patients of all age groups with a full spectrum of episodic undifferentiated physical and behavioural disorders; it further encompasses an understanding of the development of prehospital and in-hospital emergency medical systems and the skills necessary for this development.” (5)*

The American College of Emergency Physicians offers this definition:

*“Emergency medicine is the medical specialty dedicated to the diagnosis and treatment of unforeseen illness or injury... The practice of emergency medicine includes the initial evaluation, diagnosis, treatment, and disposition of any patient requiring expeditious medical, surgical, or psychiatric care. Emergency medicine may be practiced in a hospital-based or freestanding emergency department (ED), in an urgent care clinic, in an emergency medical response vehicle or at a disaster site.” (6)*

Growing evidence suggests an important role for acute care in accelerating progress on global health priorities and narrowing health disparities (7). The World Health Organization’s Global Disease Burden Project estimates that conditions with acute manifestations represent 45% of all deaths as well as 36% of the burden of disease in low-income countries

(8). Early delivery of appropriate health interventions can reduce mortality from seven of the 15 leading causes of death in low- and middle-income countries and can contribute to the achievement of three of the United Nation's 2000-2015 Millennium Development Goals (child health, maternal health, infectious disease) (9).

Acute care has nonetheless remained virtually absent from the global health agenda, as most initiatives on communicable diseases and maternal and child health have emphasised prevention, primary care, and vertical approaches to disease control. Acute care has been similarly absent from the non-communicable disease agenda despite evidence of the effectiveness of many low cost acute care interventions to reduce mortality in this area (10,11).

The World Health Assembly adopted resolution 60.22 in March 2007, which urges member states to prioritise emergency care services and to strengthen national trauma and emergency care systems in low- and middle-income countries (1). Efforts to assist in the creation, publication, and dissemination of clinical and educational research in this area should likewise be prioritised. Minimum data sets for trauma, health access, non-communicable disease patterns, and more are required to inform policy decisions, set scientific agendas, and tailor training and continuing education curricula across Africa.

The current state of emergency care development differs widely amongst African countries (9). Very generally, however, there are still many countries in which Emergency Medicine is not yet recognised as a medical specialty, or has been very recently recognised. In either case, emergency centres are often staffed by rotating or junior personnel, who are poorly trained to handle the wide variety of presentations with the limited resources available to them. Educational and training opportunities are limited. However, residency programs in Emergency Medicine are beginning to appear in several areas, as well as advanced educational opportunities in emergency care for nurses, pre-hospital staff, and other practitioners (12–15). South Africa has the most developed emergency care systems on the continent, offering multiple advanced degree options and boasting the largest Emergency Medicine school in Africa (16). The country is responsible for a large proportion of all emergency care literature produced on the continent (16). Botswana, Ethiopia, Ghana, Tanzania, and Sudan are currently the only other African countries with advanced training opportunities in emergency care, with planned programmes in Uganda and Rwanda (17). Agenda-setting conferences on African acute care have concluded that the need for further education, infrastructure, and policy development abounds in every African region. The

recommendation of scientific advocates is to enhance research endeavours and fight to align global funding interests with the systematic development of horizontal basic acute care services (17–20).

### 1.1.2 The African Journal of Emergency Medicine

The African Journal of Emergency Medicine (AfJEM) is the international, peer-reviewed journal of the African Federation for Emergency Medicine (AFEM) (21,22). AFEM represents a broad coalition of national societies, organisations, and individuals from over forty countries, and works to promote and expand emergency care across the continent (22). Based on priorities identified at regional consensus conferences, AFEM provides data to inform policy-making, offers open-access emergency care training curricula for all cadres of health care provider, and coordinates continuing education programmes in emergency care, amongst many other special projects (22).

AfJEM is one such project. AfJEM is the only Emergency Medicine journal in Africa, and according to a SciVal (by Elsevier) analysis conducted in 2015, it is the most prolific journal globally in disseminating literature relevant to Emergency Medicine and acute care in Africa (AfJEM Board meeting minutes, 5 November 2014) (23). It publishes original research, reviews, case reports, and commentary on relevant and current topics in the field. The journal, currently in its fifth volume, is published quarterly, and is available free-of-charge to all readers.

Publication with AfJEM and publication support (the Author Assist programme) also carry no charge. AfJEM is dedicated to supporting all authors who wish to make an attempt at publication on a topic within the journal's scope, and recognises that the publication fees often imposed by open-access journals may be prohibitive for African researchers from low-resource settings. It has been AfJEM's aim since its inception in 2011 to disseminate current, high-quality literature representative of emergency care development across the continent, and is acutely aware that many researchers may be disadvantaged in the available range of journals into which they can publish (24). This is due to a host of reasons (discussed in section 1.1.4), including barriers to access of scientific materials, lack of training on research and publication, poor mentorship infrastructure, a focus on topics that are largely irrelevant to researchers in higher-income countries, and others.

Both the quality and quantity of AfJEM's output has increased substantially since its first volume (21). According to the SciVal analysis, article downloads have increased by 302%

since 2013 (AfJEM Board meeting minutes, 5 November 2014) (23). Of 73 total academic Emergency Medicine journals, AfJEM was ranked number 51 in 2012, and 31 in 2014, going into its fourth volume (25). The Source Normalised Impact per Paper, or SNIP, allows for direct comparison of sources in different subject fields by presenting the ratio of journal citation count per paper and the citation potential in its subject field (26,27). The raw citation count for the journal increased 120% from 2011 to 2014, and the SNIP increased 219% in the same time, to 0.46. The average h-index of the journal is 3, and over the same time period, rejection rate has stayed constant at approximately 24% (21).

The leadership structure and operational procedures of the journal demonstrate an understanding of the low- and middle-income publication landscape in which it works, and show a commitment to actively addressing areas in which research development currently lacks across the continent. Within the very new academic specialty of Emergency Medicine in Africa, few context-appropriate role models exist, and training in research is lacking (10). In addition to Author Assist, which is responsible for one of every 18 AfJEM publications, an advising programme for junior editors and reviewers exists as well. Seventeen of the 21 editorial board members are African, and pair with an international advisory committee of specialist physician stakeholders in African emergency care development (28).

Finally, the journal strives to provide accessible content and opportunity for the hugely diverse African population. In addition to being completely open access and free to publish, AfJEM publishes all original research abstracts in both English and French, in recognition of the key role that French plays in communicating to AfJEM's readership (24). French is the second largest Lingua Franca in Africa, and a dual language policy adopted by the journal upon its inception has, since then, been considered one of the journals most effective ways of disseminating research output (24).

### 1.1.3 The Author Assist programme

Author Assist is a unique initiative of AfJEM that attempts to facilitate an author wishing to publish with the journal on an African emergency care topic. The process pairs a potentially publishable author with an experienced, published volunteer (author assistant). The author and assistant then work together to improve the quality of the manuscript before submission or resubmission.

Authors are channelled into Author Assist from a number of different streams. Some are identified by the manuscript's handling editor following submission and subsequent

rejection of the manuscript for publication: the journal's 2015 rejection rate was approximately 24% (29). Rejection often occurs prior to peer-review for noticeable, serious formatting and English language errors. Issues with research methodology or project design may result in a post peer-review reject. Any author whose manuscript topic is within the scope of the journal, and whose manuscript was rejected due to addressable issues, is referred to Author Assist as a candidate for resubmission. After consenting to Author Assist enrollment, participants are partnered with a volunteer assistant registered in the Author Assist database. Volunteers must have a strong publication history and expertise in the subject matter of their partner author. As of 2014, the average h-index of Author Assist authors was  $2 \pm 0.4$  (range 0-5), and the h-index of volunteer assistants was  $6 \pm 6$  (range 1-26) (30). H-index is used to quantify both the scientific productivity and the apparent impact of an author's research output. A scientist has an h-index of h if he has published at least h papers that have been cited at least h times by others (31).

Author Assist's place in the full submission and publication cycle is shown in Figure 1. The entire process, including handling editors and reviewers, is blind to Author Assist participation.

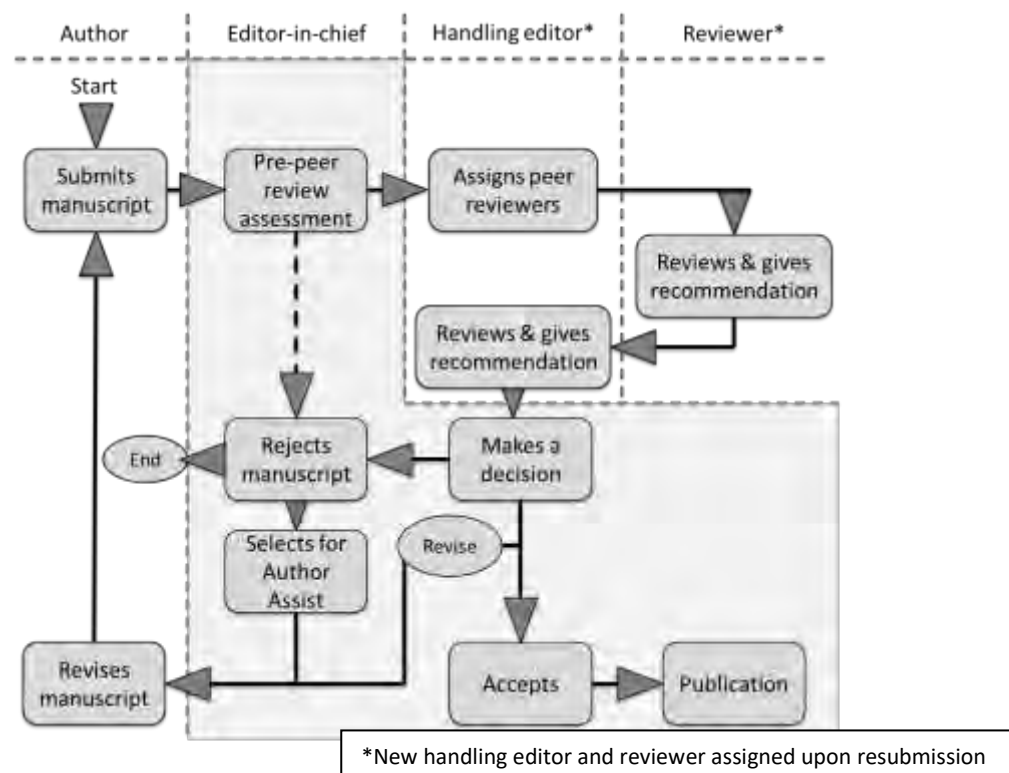


Figure 1: The editorial process involving Author Assist (30)

Authors may also register for Author Assist independently, prior to submission of a manuscript for publication. Online application allows participants to register with either a complete or nearly finished manuscript, for review and submission preparation. While Author Assist is not designed to provide research development, some information exists on the application page to direct authors toward resources for developing a project from the ground up, as well as for beginning to organise and write completed research (29).

Between 2011 and 2014, original research articles made up 69% (n=31) of the rejected samples referred for Author Assist, and the remainder were a mix of reviews and case reports (30). Desk rejects for noticeable, serious formatting and language errors made up 67% of those rejected, and post peer-review rejects for project design and research issues made up 33% (30). Nearly half (44%, n=23) of authors offered assistance accepted (30).

In 2015, seven authors signed up or were referred to Author Assist. Five of the manuscripts are original research, one a case study, and one a report on a national emergency care system. As of December 2015, one manuscript had been published, and the remaining six are in progress.

This data comes from a recent internal review of AfJEM's Author Assist programme (30). The aim was to describe and evaluate the success of the Author Assist service in reversing publication decision by comparing pre- and post-author assistance publication data, and the primary outcome was post-assistance publication rate. Additional objectives include determination of the post-assistance rejection rate; the rate at which authors enroll and subsequently withdraw from the program; the citation rates of accepted manuscripts; and average length of time from rejection to resubmission. Data was obtained retrospectively from the Author Assist database, and supplemented by author citation information from Scopus®. It provides descriptive publication data of the cohort, and unlike this dissertation, includes no qualitative component or input from participants (30).

The review shows a very high success rate on resubmission (30). Of the 23 submissions to participate in Author Assist between 2011 and 2014, twelve have since been accepted for publication, one rejected, and ten were either removed, or are currently in progress (30).

#### 1.1.4 Societal background

The publishing gap between researchers from high-income countries and those from low- and middle-income countries is increasingly well-documented (32–35). An analysis including 3.47 million health research articles published in 4,061 journals from 1992–2001 showed growth in the gap between low- and middle-income countries and the rest of the world in publication in the highest impact journals, despite heavy focus on topics aimed at reducing poverty and disease burden in developing countries (33).

A more recent report by the World Bank focusing on research output and citation impact in sub-Saharan Africa recommends that African governments and development entities accelerate support to research and research-based education to further increase the ability of Africans to solve problems within Africa, and without necessarily relying on international intervention (36). One of the most significant conclusions drawn from the report is that quantity and quality of research output in sub-Saharan Africa has greatly increased between 2003 and 2012, suggesting the existence of a large scientific talent base on the continent, as well as international recognition of the importance of nurturing this group and their professional development (36). Despite this, sub-Saharan Africa still accounts for less than 1% of the world's total research output, hugely disproportional to its 12% share of the global population (37). Advances in research output are slower than other areas, such as Southeast Asia, whose research output was similar in 2003 and is now substantially greater. Furthermore, research output in science, technology, engineering, and mathematics within sub-Saharan Africa lags significantly behind that of other sectors, and the region as a whole still heavily relies on international cooperation (37,38).

A 2004 analysis of the challenges of African research capacity development points to recent exacerbation of development gaps between “information rich” and “information poor” societies (39). This growing gap is due to the emergence and now global economic dominance of the “knowledge society”, in which production and international trade rewards value-adding technology. Advanced learning and research, therefore, are receiving increased attention in countries that can afford to invest in them, in recognition of their contribution to global competitiveness. Despite this new global culture, however, the author argues that strained economic conditions paired with recent policy bias toward basic education over tertiary has stunted sustainable research efforts in lower-income countries, particularly within Africa (39). The African university is by far the most significant producer of science research, with other sources (public research institutions, firm-based centres, non-profit organisations) creating little current threat to this status quo (39). Systemic issues



in the management, resource availability, and sustainable output of universities can therefore be said to be at the heart of the challenge of research capacity development across the continent. Although difficult to quantify, different estimates put the total percentage of graduate students within university student populations at a meagre 1-7%, far off the estimate that a five to one ratio is required to drive a meaningful research economy (40).

This paucity of advanced-trained researchers is further exacerbated by a lack of opportunity for research practice for the few that there are (39). Individual research capacity primarily develops through direct participation in research, and ongoing research provides a crucial opportunity for the experience of senior members of a research team to help foster early-career skill progression. A lack of on-going research and shortage of team and networked projects in higher education institutions in Africa therefore creates a fatal bottleneck in capacity development. The author attributes this bottleneck to a university climate in which senior colleagues are too distracted by consultancy and project-oriented research to offer supervision to junior faculty, a phenomenon exacerbated by lack of university policy on mentorship as well as the universal “brain drain” (39,41,42). As aging faculty move toward retirement, they are not being replaced in numbers sufficient to provide the appropriate levels of mentorship (41–43).

There is increasing, though generally still sparse, evidence that new researchers and those from resource-limited environments also experience significant barriers to access of quality education and support for all steps of the research and submission process, in addition to limited mentorship opportunities (44–48). The International Network for the Availability of Scientific Publications (INASP) is a non-governmental organisation that in response to these needs works across the research communication cycle (49). An INASP report from 2010 highlights the lack of editorial support for researchers submitting to both local and international journals. Feedback from authors and editors demonstrates that “lack of editorial help prolongs the review process or results in rejections”, yet few local journals can afford to hire copyeditors, and international journals expect authors to complete editorial steps prior to submission (50). In addition, Shashok describes the existence and role of “author’s editors” but as a service inaccessible to most scientists, particularly those in developing areas. Her analysis suggests a failure of communication of interests between authors and editors and a lack of standard models of assistance, contributing to isolation of authors from knowledge about potential support (51). There is little evidence of progress in that area in the last fifteen years. Other types of editorial support are frequently limited to writing workshops and courses, as well as simple access to scholarly materials.

Authors in institutions that provide editorial support-- such as many private research institutions in high-income countries-- or can afford to hire independent support, possess a competitive advantage. AuthorAID, an initiative of INASP, was birthed from these realisations, and is one of the few programmes aimed at increasing quality scientific output of developing countries through intensive, free publication support of individuals (52). However AuthorAID, while offering a robust network of experienced mentors, and numerous general research and publication resources, does not attempt to organise resources by specific topic, and does not have a single mentor registered in its database who can specifically assist with Emergency Medicine or acute care topics (52).

## 1.2 Summary of the problem

While increasing evidence shows growth in recent years in the number of local and international indexed scientific journals, international collaboration in publishing in low- and middle-income countries, and both number and quality of overall scientific and medical publications, there is a paucity of freely available publication resources for individual researchers in low-resource settings. Health scientists in low- and middle-income countries are often boxed out from opportunities to progress as researchers or get recognition for their work, due to a lack of educational resources available to help them through the research and publication process. Several initiatives have attempted to address this at the level of independent researchers, but seem to focus on access to quality publications, rather than an attempt to help with writing and editing (32,51). As far as we know, AfJEM's Author Assist is the only publication assistance programme in the world specific to Emergency Medicine and acute care, and the only free, journal-specific editing service targeting writers in low- and middle-income countries. Since its inception in 2011, no study has been done to collect or analyse feedback from those participating in the service, and this analysis is necessary to standardise the programme and maximise its ability to assist its target audience.

## 1.3 Professional significance and benefit

Author Assist participants have a markedly higher publication success rate than those who submit independently to AfJEM (30), and this difference easily justifies the existence of the programme. As a journal with a particular niche in Emergency Medicine

within the sub-Saharan African resource-limited setting, AfJEM was affected from its inception by the low volume and quality of submissions. This posed a significant challenge for the journal editors. Collaboration was identified as a potential way of improving regional submissions, in line with global statistics on international collaboration in resource-limited scientific environments. A World Bank report found that in 2012, 79%, 70%, and 45% of all research by Southern Africa, East Africa, and West and Central Africa, respectively, was the result of international collaboration (36). Author Assist service was therefore established early in the journal's life, during AfJEM's first volume.

This thesis aims to characterise the most prominent and useful components of Author Assist, as identified by past participants. An understanding of these components will allow the journal to better serve Author Assist participants, with the goal of contributing to better overall experiences with the programme as well as higher publication rates. An additional objective is to show that acceptance in a peer-reviewed journal following a thorough examination of the research, and a publication process specific to the author's work environment, both encourages and enables further research activity. More scientists from more areas publishing more original research not only unlocks individual career opportunities, but provides a wider research audience with tools for improving their performance and outcomes. A comprehensive understanding of Author Assist will allow AfJEM to better target those most willing and able, but simply under-prepared, to grow and strengthen the cohort of African scientists contributing to Emergency Medicine development throughout the continent.

## 1.4: Overview of the methodology

### 1.4.1 Study design

The study is a two-part, mixed-qualitative methods study: to first create a process map of Author Assist, and then to pair conclusions from the process with information from wider participant feedback and a review of similar resources to inform user experience improvements. Table 2 shows the general overview of the two-part design.

Table 2: Overview of two-part study design

	Part one	Part two
Approach	Grounded theory framework	Qualitative content analysis
Sampling	Purposive	Quota
Sample size	4 Authors 3 Assistants	Maximum responses (n= 10 authors)
Structure	Semi-structured interviews, <1 hour	Structured survey-style interviews
Research goals	Generate a theory via category development	Describe meaning of materials  Verify part one category development
Data analysis process (53–55)	Charmaz (2006):  Initial coding, focused coding, theoretical coding	Mayring (2000):  <u>Inductive approach</u> : Selecting, units of analysis, creating categories, revising categories  <u>Deductive approach</u> : Selecting the units of analysis, deciding and defining categories derived from prior theory, coding into the predetermined categories, revising categories
Sample questions	<ul style="list-style-type: none"> <li>- How did the process unfold?</li> <li>- How did author and assistant interact?</li> <li>- How did you feel and what could be improved about overall experience?</li> </ul>	<ul style="list-style-type: none"> <li>- Which specific components of process stood out as successful/unsuccessful?</li> <li>- How can parts of the process be tweaked to better facilitate?</li> <li>- What parts of the process need to be more formalised, or governed by standard protocol?</li> </ul>

A qualitative design in general was chosen for this study due to the overall small sample size, as well as the one-on-one nature of interaction within the programme. The Author Assist programme invests heavily in each participant, limiting the capacity of author enrollment. Quantitative data on author publishing or research statistics is not inherently produced or collected by the programme, and therefore we are reliant on perceptions of programme participants for gathering information. In contrast to quantitative studies that include large

samples and yield few data, a qualitative approach utilises a small sample and yields large data, making it the more appropriate way of exploring Author Assist beyond a purely descriptive assessment.

As outlined in Table 2, the first step produced case studies of four authors and three assistants who underwent Author Assist at least once between 2011 and 2015, using semi-structured interviews with each. A total of twelve manuscripts were represented by these interviews, and two of the assistants were partners of two of the interviewed authors (i.e. in two instances, both author and assistants of a particular commission were interviewed). Data was processed simultaneous to collection, following a grounded theory approach.

The surveying of a wider sample size of participants (38%, n=10, of total remaining author participants) confirms the theories drawn from the initial interviews and allows for reasonable introduction of suggestions to improve the Author Assist programme. It also provides the opportunity to question those who have completed the process on the proposed improvements, and adjust the suggestions further to incorporate their response.

Part two data was analysed both inductively and deductively following the guidelines of qualitative content analysis established by Mayring (54), and described by Elo & Kyngäs (56). The difference between the two methodologies and methods, according to Cho (55), is that while coding in grounded theory focuses on finding relationships among categories to build theory, content analysis aims to extract categories from the data.

#### 1.4.2 Study population and sampling

Thirty authors had participated in Author Assist at the commencement of the study. Of those, 25 had taken up the Author Assist offer following initial publication rejection (either desk or post peer-review reject), and the remaining five applied for Author Assist of their own accord, prior to submitting their manuscript for publication. All were invited to participate in this study. Approval for data collection was sought out and granted by the University of Cape Town Human Research Ethics Committee (reference number 181/2015), and permission to access the journal's Author Assist database granted by the AfJEM executive committee.

Four authors were interviewed initially. They were selected via a non-probability, purposive method, taking into account the potential of both those authors and their partner assistants to contribute thorough, useful feedback on their experience.

In the second portion of the study involving a wider sample size, exclusion criteria was limited only by data saturation. Sample size was not calculated – although it exists for qualitative studies, it is not typically used, and subjects for this study were approached until thematic saturation occurred. No corresponding author who agreed to participate in the study expressed a limitation on his or her ability to respond in English.

#### 1.4.3 Data management

As with all qualitative and textual data research, strict documentation was the critical consideration with this study. The interviews (seven in total) from the first part of the study generated 84 pages of transcript, in addition to handwritten notes taken during the interview. The interviewer attempted to create the notes by making lists of each interviewee's perception of each part of the process mentioned, and noting the perceived importance of each issue to the interviewee. These themes were then identified directly back from the notes immediately following the interviews and organised into checklist matrices by the interviewer, which condensed data into simple categories for theoretical coding. The full transcripts were transcribed by the interviewer herself, and coded without reference to the categories created from the interview notes. The transcript analysis and notes matrices were then double-checked against each other, a triangulation technique that helps confirm the interviewer's perceptions.

Part two of the study generated 49 pages of transcript from ten structured interviews. Data was organised in the same way as part one by the interviewer, but with data organised first by question (since the question list was completely standardised), and then by theme and sub-theme within each question matrix. The question list is included in Appendix E, and a sample coding sheet in Appendix F. Full transcripts are not included in an attempt to ensure anonymity of participants.

#### 1.4.5 Data analysis

As is typical with qualitative research, the collection period yielded much data on a few cases, rather than little data on many cases. Part one was analysed using grounded theory methodology, introduced by Glaser & Strauss in 1967 (57) as a means of "constant comparative analysis" as well as theoretical sampling. A grounded theory approach allows for something of a "recruiting process" as the study progresses, so that insight from initial

data collection and analysis inform subsequent data collection choices (53,58,59). The test of the theory (the “process”) generated by part one came from qualitative content analysis applied to the structured interviews in part two. As described by Cho (55), “a researcher who uses qualitative content analysis aims to ‘systematically describe the meaning’ of materials in a certain respect that the researcher specified from research questions.”(60)

Although both grounded theory and qualitative content analysis follow coding processes, content analysis does not focus on finding relationships among categories or theory building; instead, it focuses on extracting categories from the data (55). As is recommended by Charmaz and Cho, analysis of the full transcript data began by dividing the interviews into “meaning units”, or segments of text that each contain one main idea (53,55). Each unit from each interview was labelled and then the labels across multiple interviews combined into larger descriptive categories. Clusters then arose made up of several descriptive units, and numerically assigned for coding.

As the coding categories were defined, a coding sheet was created to physically organise them in Microsoft Excel® (Microsoft Corporation, Redmond, WA) with categories listed in rows, and transcript fragments listed underneath. This shows the frequency that each category comes up, and also serves to physically organise text fragments and allow for easy retrieval of examples as needed from the original transcripts.

#### 1.4.6 Delimitations

Strengths of a qualitative study with a small sample size include the ability to explore issues in depth, and conduct interviews that are not restricted by specific response requirements (61–63). The framework and direction can be quickly revised during data collection to continuously ensure the most useful information is being collected. One strength, due to purposive sampling of those most involved, is the ability to produce information immediately and directly applicable to specific AfJEM Author Assist improvements. In addition, data collected should to some extent be transferable to other author- editor situations and answer broad questions about access to support amongst medical researchers in African countries.

Because of the small sample size, however, it is not extendable to a large population, simply a transfer of settings. Another limitation is the heavy reliance on the thoughts and perceptions of a single interviewer. The interviewer’s presence likely affects participant response, and results are subject to the skill of that interviewer.

A further, significant, limitation of the study is the lack of focus on reasons for rejection or removal from the programme. This study, as the title suggests, explores reasons for successful publication, but no author who did not successfully complete the process was interviewed. Authors who did not accept the offer to participate in Author Assist following rejection of their manuscript were not contacted, so conclusions and recommendations of this study cannot take into account their reasons for declining. The study was originally designed with only successful partnerships in mind in order to identify as many factors leading to publication as possible. No thoughts to include other participants (or realisations that negative perspectives could contribute to understanding of successful outcomes) arose until data collection was nearly complete. The decision was made at that time to maintain the original study design over concerns of expanding the scope of the project to beyond reasonable for a master's-level dissertation. There are, however, three manuscripts—represented by three different interviewed assistants—not published in AfJEM after Author Assist; their views on reasons for removal of these manuscripts are taken into consideration. Plans for a wider study on perceptions behind negative outcomes are in process.

Finally, although all authors submitted for publication in English, and no author expressed difficulty or English language limitation, language barriers could still have introduced bias. Authors not confident in their ability to express complicated ideas in spoken English may have consciously or subconsciously withheld information. However, it was assumed that because the entire publication and mentorship process was conducted in English at an academic level, language barriers were not overly prohibitive.

## Chapter 2 - LITERATURE REVIEW

### Introduction

The literature review was conducted by in-depth searches for previously published scholarly work on several major topics relevant to this study: Comparative global research output in biomedical sciences, current ability for researchers to both access quality scientific literature and disseminate their own work, the publication climate in low- and middle-income countries and relevant development or support initiatives, and a review of international publication services – both commercial and non-profit. An exploration of qualitative research methods and explanation of those employed in this study are included



as well. The search was conducted in several online databases including PubMed-NCBI, Scopus, Science Direct, and Google Scholar.

The background on emergency care and Emergency Medicine development was compiled based on a search that began in PubMed – NCBI using the MeSH terms “Africa” and “Emergency Medical Services” and [“research” or “policy making” or “program development”]. The same search terms were then used in Scopus®, in which AfJEM is indexed. Titles and abstracts were read, followed by the full article if the abstract suggested relevance to the study.

The societal background and bulk of this chapter grew from a search in each of the listed databases including terms such as research or scientific “capacity”, “development”, “support”, “initiatives” and “output”; “scientific publication”, “publication initiatives”, and narrowed to articles pertaining to Africa, LMICs, or emergency care as needed. This is by no means an exhaustive list, as terms were added and refined throughout the research process. As in the search for the state of emergency care and its development, abstracts were read, followed by the full article if deemed relevant by the author for this dissertation. The references for each cited article were explored as well, and similarly screened.

## 2.1 Global research output

There is increasing evidence showing a widening discrepancy in publication productivity between researchers from high-income countries and those from low- and middle-income countries (32–35). One large-scale analysis of 3.47 million health research articles published in 4,061 journals over a ten year period (1992-2001) demonstrates this phenomenon, showing a shifting ratio of low- and middle-income country authors and higher-income country authors in literature in the highest impact journals (64). This increasing gap comes despite heavy focus on topics aimed at reducing poverty and disease burden in low-income countries. According to the study, the top five low-income countries (India, Nigeria, Kenya, Pakistan, and Bangladesh) produced 1.4% of the world’s health-related publications in that ten year period (64). The top five lower middle-income countries, including South Africa, the most productive sub-Saharan country, produced 4.4% of the global share, and the top five high-income countries (USA, UK, Japan, Germany, and France), produced 65.6%, with all 42 high-income countries responsible for 90.4% of the global publication output (64). Furthermore, a large proportion (79%, 70%, 45% in Southern, East, and West and Central Africa, respectively) of the research output in low- and middle- income

countries involves collaboration with institutions from high-income countries (36). Although heavy international collaboration is not necessarily a negative aspect of low-resource research, it highlights the inability of local researchers in many areas to independently and sustainably produce high-quality, internationally-disseminated materials. The data together points to the need for a focus on development on this local capacity of individual and institutional researchers to publish robust results in credible, high-impact journals.

One of the most significant conclusions drawn from the report by the World Bank Group in 2014 shows that quantity and quality of research output in sub-Saharan Africa has greatly increased between 2003 and 2012 (36,65). Citation impact has increased significantly as well, suggesting the existence of a large scientific talent base on the continent, as well as international recognition of the importance of nurturing this group and their professional development. A separate look at the Scopus® database shows a fivefold increase in the number of documents produced by authors from developing countries, from 10,430 in 1996 to 52,800 in 2014 (66). However, sub-Saharan Africa still accounts for less than 1% (with some estimates as low as 0.4%) of the world's total research output, hugely disproportional to its 12% share of the global population (36). Advances in research output are slower than some regions, such as Southeast Asia, whose levels were similar in 2003. Research output within science, technology, engineering, and mathematics in sub-Saharan Africa is particularly affected, and the region as a whole still heavily relies on international cooperation (67,68).

There is a unique niche for regional journals, such as AfJEM, within this dearth of research output to publish context-specific research. Local journals, in addition to being able to focus on hyper-relevant topics and applications, can serve as a resource much more accessible to new and aspiring researchers for both continuing education and publication (69,70). It is therefore imperative for the sake of these researchers' careers and personal development that regional journals have reputations of producing high quality publications and are visible on an international scale.

## 2.2 Access and visibility

Schoonbaert, in a response to a bibliometric PubMed analysis of growth of sub-Saharan biomedical publications, was able to identify 30 different journals from sub-Saharan African countries indexed as of 2009 (64,71). Eleven countries have indexed journals, 60% of which are concentrated in two countries (South Africa and Nigeria) (71). 75% of sub-

Saharan African countries have no representation. The original PubMed analysis by Hofman, et al. on which Schoonbaert is commenting notes that most African authors prefer to publish in international journals, rather than locally indexed MEDLINE journals, particularly South African researchers (64). International journals may be targeted preferentially because they are frequently regarded as essential within the context of promotion policies at local academic institutions, and because the scientific community in many regions associates indexed journals from high-income regions with quality and visibility.

The open access movement represents a major shift in methods for accessing international literature. Its growth is spurred by the increasing ability of researchers across the globe to access the internet, and its promotion is fuelled by the internationally recognised need to assist in developing low- and middle-income country research capacity. There are numerous global benefits to the effective dissemination of information coming out of low-resources areas: it informs evidence-based policy decisions in both local and international political arenas; it improves the ability of all nations to address issues such as infectious disease, that are not necessarily contained by geographic boundaries; and it provides collaborative research opportunities that benefit both the international institution and its developing partner (44,45,72). The other edge of the sword, however, is that the operational costs for open access initiatives are typically shifted from the consumer to the author (46). Publication in high visibility journals may cost several thousand US dollars per manuscript, often prohibitively high for low- and middle-income country researchers (46,73).

Large open access initiatives include PubMed Central, Biomed Central, and the Public Library of Science (74–76). These sites provide full biomedical texts with no subscription charges to readers and have competitive impact factors. Although the movement is gaining momentum, PubMed, for example, currently indexes 19,000 journals, while PubMed Central, its open access arm, lists only 367 (46). HINARI, an initiative set up by the World Health Organization (WHO) and major global publishers, allows free access for scientists from low- and middle- income countries to approximately 15,000 non-open access biomedical journals and other health literature (77). This suggests an impressive contribution to access initiatives, but there is some evidence that HINARI is not yet being used to its full potential. One study of the twelve tertiary health facilities in Nigeria with HINARI subscriptions looked at patterns of usage of the programme (48). Results show that knowledge of HINARI was high (72%), but only approximately one third of the researchers surveyed had received formal training on how to use it (48). As is discussed in section 4.3.4,

several author participants of this study likewise brought up lack of knowledge of HINARI and other research access programmes as a barrier to individual publication efforts.

### 2.3 Individual publication support

The International Network for the Availability of Scientific Publications (INASP) is a non-profit organisation that works across the research communication cycle (49). An INASP report from 2010 highlights the lack of editorial support for researchers submitting to both local and international journals (50). Feedback from authors and editors demonstrates that “lack of editorial help prolongs the review process or results in rejections”, yet few local journals can afford to hire copyeditors, and international journals expect authors to complete editorial steps prior to submission. In addition, Shashok describes the existence and role of “author’s editors” but as a service inaccessible to most scientists, particularly those in developing areas (51). Her analysis suggests a failure of communication of interests between authors and editors and a lack of standard models of assistance, contributing to isolation of authors from knowledge about potential support (51). Other types of editorial support are frequently limited to writing workshops and courses (78,79), as well as simple access to scholarly materials (47,71,77). Research4Life, for example, is a programme collective that provides scientists in developing countries with free or low cost access to peer-reviewed literature online (80).

Numerous commercial publication support services exist. They target different audiences, with many focusing on translation and language editing for publication by non-Anglophone researchers in English-language journals. Enago, for example, boasts offices in four countries, and a staff of 850 English editors helping authors in 125 countries get published (81). The target audience of many of these sites, including Enago, is obvious, reflecting recent spikes in the rates of research output in particular in the Middle East, India, and across Asia. The research landscape in these middle-income countries is ballooning at an incredible pace, and with it pressure to disseminate research output internationally (40,82). Commercial services have swept in on this “publish or perish” culture ahead of capacity for academic research institutions to offer comprehensive educational resources and publication support. Low-income countries, whose researchers often have limited access or cannot afford services at even transition-economy prices, are now facing much slower growth rates in research output than rapidly developing countries whose output was similar ten years ago (36).

Typical online editing companies offer services whose start and finish in the research process are similar to the scope of Author Assist (83–86). Rather than spanning the full research process, companies seem to offer services beginning with a finished or nearly finished manuscript. Many companies, however, do provide full manuscript translations, which Author Assist has never been able to offer (84,87,88). To the journal's knowledge, no free translation service exists for academic medical literature. Translation is a profitable service, with huge markets in Asia and the Middle East in particular, and prices range from \$0.12- 0.38 per word (87,88). Common offerings within publication packages, in addition to translation services, include journal selection, journal-specific formatting, copyediting, figure correction, submission and resubmission support, and response to reviewers. Many custom options seem to exist as well. The only other service included in this list that is not offered by an Author Assist partnership is journal selection, as it is understood that referred authors will only attempt to submit in AfJEM. Quotes from six publication support companies (ENAGO, Reseapro, Oxford Editing, American Journal Experts, Editage, CactusGlobal) for the most basic editorial package ranged from USD282 to USD490 (avg= USD386), with advanced editing options (non-expedited) reaching as high as USD2500 for a manuscript up to 6000 words (81,83–86,89). Authors in institutions that provide internal editorial support or can afford to hire independent support possess a distinct competitive advantage. This advantage is reflected in the difference in quality research output between high-income and low- and middle-income countries, as measured by citation impact and h-index (35).

AuthorAID, an initiative of INASP, is one of the few programmes aimed at increasing quality scientific output of developing countries through intensive, free publication support of individuals (32,52). According to their website, AuthorAID helps researchers in developing countries publish and otherwise disseminate their work (52). Partnerships with mentors can help with research design, choosing appropriate journals, writing and editing, and preparing posters and presentations. As an established, non-journal affiliated service, AuthorAID offers support across the full research process, and much of its focus is on supporting individuals through tailored mentorship schemes and live workshops. This is a similar model to what Author Assist is working toward, with the primary difference— and distinct advantage of Author Assist for the right audience—being that it is an expert and tailored service of a specific journal for authors wishing to publish in that specific journal. The most significant limitation of AfJEM, in the grand scheme of research capacity development in Africa, is that it is focused on a single medical specialty, and offers no direct service for those seeking the

same services outside of that scope. AuthorAID sacrifices knowledge of specific journal requirements to reach a much wider audience. However, a search of AuthorAID's mentoring and collaboration database returns zero potential mentors for "Emergency Medicine", "Trauma", "Acute Care" or "Emergency Care", presumably leaving Author Assist as the only operating free emergency care-specific publication support service.

After a thorough search, the investigator could find no other journal on any topic providing their own publication support. There is one other development initiative for research development assistance to which AfJEM frequently steers authors, particularly pre-publication phase: Supercourse by the WHO Collaborating Center, University of Pittsburgh (90). Supercourse is a freely accessible online repository of a total of 165,000 global health lectures and research methods materials (90). The developers encourage creation of context appropriate "mirror sites", and five such sites exist in and for Africa, the most developed of which is managed by Egypt's Library of Alexandria (91). While the database does not offer individual support or live mentoring, it provides myriad free resources including recorded seminars and lectures, and organises them by both location and topic. AfJEM recommends Supercourse to authors who are not yet in a position to be referred to Author Assist, or whose research is outside the scope of the journal.

## 2.4 Qualitative research methods

Qualitative research is an umbrella term that encompasses many approaches within a wider framework of trying to understand the social reality of individuals, groups, or populations. The basis lies in interpretation and description of lived experiences (61,92–94). Lincoln and Guba argue that a paradigm shift was first proposed by Kuhn in 1962 from a scientific process largely grounded in positivism (95–97). Positivism, dominating the scientific inquiry arena for much of the 19<sup>th</sup> and 20<sup>th</sup> centuries, is an approach to science based on a belief in universal laws and insistence on objectivity and neutrality (97). Kuhn led the charge in the mid-20<sup>th</sup> century against positivism, for its emphasis on social reality as being separate from the individual. Quantitative research and all it encompasses, he and his supporters argue, is highly useful and valuable, but it is limiting in its neglect of participants' perspectives within the context of their lives (93,98).

Exploration of the ideas of sociologist Weber have further fuelled the separatist debate with his insistence on the inherent difference between *understanding* in social sciences and *explanation* in natural sciences (99). Beforehand, Smith put forward several

succinct truths of qualitative inquiry: Complete objectivity and neutrality are impossible to achieve; the values of the researcher and participant become intrinsically incorporated into the research; qualitative research is not completely precise, because human beings do not always act logically; and, finally, detailed replication of a piece of research is impossible, because the research relationship and history of the participants cannot be held constant (94,98).

The full arguments for qualitative research's place in investigation and its evolution within entire fields of research cannot be unpacked here. However, it is within this paradigm debate that different qualitative methods have emerged and been increasingly applied to answering questions and understanding processes within the health care field (98). Grounded theory, phenomenology and ethnography are three of the more common and well-described approaches. Grounded theory was first described in *The Discovery of Grounded Theory* by Glaser and Strauss in 1967 to inductively generate or discover a theory out of the data (57,58,62). Grounded theory is often used in social science, whereas phenomenology and ethnography are more common in health care.

Phenomenology is interested in how people put together their lived experiences in a way that makes sense of the world and allows them to develop a worldview (100). Phenomenologists assume commonality in human experience and focus on meaning-making as the essence of human experience. Phenomenologists often refer to the "lived experience" and data is often limited to interviews, while findings are reported as a rich description of the experience drawing on characteristics identified during data analysis (98,100,101). There are, however, differences in opinion on how phenomenology should be undertaken. Some favour an emphasis on description, while others favour a so-called Heideggerian analysis and attempting to explain the unearthed phenomena (100,102).

Grounded theory, on the other hand, aims to generate a particular theory to describe or explain phenomena under study by taking into account all data sources that might contribute to that theory's development (100). While phenomenologists focus on the "lived experiences" of their participants, grounded theorists seek to include interviews, observations, past literature and research using a "constant comparison" technique (59). Seeking out discrepancies contributed by different participants challenges and shapes the emerging theory simultaneous to data collection.

For the purposes of this study, which sought to understand participant experiences within the context of African Emergency Medicine development and international scientific

publication, phenomenology fell a little bit short. A grounded theory approach was employed as it allowed for constant comparative analysis of individual experiences and ultimate formation of “theories” to inform creation of, and then be tested by, later participant feedback.

There is some confusion in the literature as to the difference between grounded theory and qualitative content analysis, as well as in simply defining qualitative content analysis. In qualitative content analysis, data are categorised using categories that are generated inductively from the data (56,60). The differences in definition boil down to analysis of the data once it has been sorted into categories. It has been described as always entailing the counting of words or categories to detect patterns in the data, then analysing those patterns to understand what they mean. Qualitative content analysis can also be defined more broadly to include techniques in which the data are analysed without the use of any counting or statistical techniques (54,63,103). Either way, it is a particular research method for analysing textual data that is flexible in its use of inductive and deductive reasoning depending on the purpose of a particular study (55).

According to Cho, confusion between grounded theory and qualitative content analysis has arisen due to the misconception that grounded theory is a methodology and content analysis an analytical technique for reviewing textual data (55). However, content analysis has continued to evolve into a full research method “for subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns”(103), while grounded theory has developed from a theoretical methodology to include specific methods for collecting and manipulating data. In this study, both are used as both methodology and method, in two distinct investigative steps.

Both follow coding processes, but while coding in grounded theory focuses on finding relationships amongst categories to build theory, content analysis aims to extract categories from the data (55). Meaning is assigned to the data from the research questions in a researcher-specified way. A benefit to this method is the ability to approach both latent and manifest content. In purely descriptive studies, only manifest content on the surface of the study is coded, but qualitative content analysis, with its systematic description of meaning by assignment of data to pre-generated categories allows for some degree of interpretation (55). Part one of the study was analysed following the guidelines for grounded theory put forth by Charmaz, as the method both physically and conceptually reduces data throughout comparative analysis to facilitate theory development via themed category



creation (53). The qualitative content analysis method selected is that suggested by Mayring, which derives initial categories directly from the research questions (54). Themes within the categories are then deductively developed and refined based on progressive participant reactions to the questions. The research outcome is a substantive theory that is used in extraction of meaning from qualitative material formatted as categories that answer the research questions.

## Chapter 3 – AIM, OBJECTIVES, AND METHODOLOGY

### Introduction

The objectives are answerable by a single research question, which was explored through a two-part qualitative study involving in-depth semi-structured interviews with several key informants of AfJEM's Author Assist, as well as structured surveys with a wider audience of past Author Assist participants.

### 3.1 Study question

What are the factors / components of Author Assist that make up a partnership resulting in successful publication with AfJEM after an initial rejection as perceived by the authors and their assistants, and how can identifying those factors improve the Author Assist process?

### 3.2 Objectives

1. To explore the process and describe the components of those Author Assist partnerships which ended in successful conversion of a rejected manuscript to accepted following resubmission.
2. To determine author and assistant perceptions of specific Author Assist interventions within the revision process and analyse participant-recommended improvements.

### 3.3 Participants

#### 3.3.1 Naming conventions

For the purpose of this study, the corresponding authors for manuscripts within Author Assist are referred to as “Author”. Those volunteer experts commissioned to work on Author Assist manuscripts are referred to as “Assistants”. Any author or assistant with whom an in-depth, semi-structured interview was conducted for part one this study may be referred to as “interviewee”, and any author with whom a structured interview was conducted in part two of the study may be referred to as “respondent”. Any author or assistant participating in any portion of the study or Author Assist in general may be referred to as “participant”. “The journal” refers to any staff member or editor working for AfJEM.

#### 3.3.2 Part one: Interviews

Four authors and three assistants were interviewed initially. The participants were selected via a purposive, non-probability method to maximise the information provided by these in-depth interviews. Selection was based on a history of responsiveness in communications with the journal, and a mix between the selected authors of background, research areas, and Author Assist timeframes. The following criteria was required for interviewee selection:

- Submission and subsequent rejection of original research to AfJEM between 2011 and 2015 or seeking out of Author Assist pre-submission of a finished manuscript
- Acceptance of Author Assist and demonstrated enthusiasm to cooperate
- Attempt to submit or re-submit report in full to the journal following communication between author and assistant.

Two of the assistants interviewed were partners of two of the four authors interviewed (i.e. assisted with the manuscripts of the interviewed authors). All four partner assistants were contacted for interview, with no response received from the other two. Table 3 shows basic demographic information of each participant as well as their identification code for this study.

*Table 3: Author Assist interviewee demographic data*

Participant code	Role	Region (practicing time of AA participation)	Job title	# times participating in AA	Highest qualification
Au1	Author	N Africa	General physician	1	MD
Au2	Author	W Africa	Emergency physician	1	MBChB, MPH
Au3	Author	N Africa	Non-EM Specialist	2	MD
Au4	Author	E Africa	Emergency physician	2	MD
Ast1	Assistant	N America/E Africa	Emergency physician	2	MD
Ast2	Assistant	N America	Emergency physician	2	MD, MPH
Ast3	Assistant	Europe	Emergency physician	1	MBChB

### 3.3.3 Part two: Surveys

Quota sampling was employed in the second part of the study, in order to maximise participant response. Ten authors completed structured survey-style interviews after the initial in-depth interviews. None of these participants were amongst those interviewed in the first part. Because the total number of Author Assist participants from 2011 to 2014 is quite small (n= 30 authors, 22 assistants), inclusion criteria simply required participation in Author Assist through the point of submission or resubmission.

## 3.4 Design

### 3.4.1 Part one

Participants were contacted via email, and invited to interview on the grounds that they had previously been enrolled in Author Assist, and fit all selection criteria. Those who agreed were emailed a consent form and information sheet prior to the interview day, explaining the procedures, purpose, and potential benefits and liabilities (Appendix A and B). Because none of the interviews were conducted in person, the consent form was reread by the interviewer at the start of the interview, and the interviewee gave verbal consent. Approval for this study

design was granted by the University of Cape Town Human Research Ethics Committee (reference number 181/2015).

The interviews occurred once for each participant via phone (audio only), and lasted 41-67 minutes (mean=53 minutes) in duration. Only broad themes were introduced in the interviews to encourage maximum flow of dialogue and flexibility of response. A qualitative approach to interviewing allows interviewees to “respond in their own words”, and “to express their own personal perspectives” (92,98). Moreover, this form of systematic interviewing minimises interviewer effects. According to Seale, the less structured the interview, the more the participants will be able to identify and concentrate on the most significant aspects of their experiences (93).

The first full interviews followed a grounded theory approach because of the lack of assumptions present at the start of the study. Rather than attempting to answer any specific single question, the interviews provide a broad picture of the general process of Author Assist, with the flow governed by participant experience rather than themes pre-introduced by the interviewer. The questions attempted to weave wider societal trends and practices in research and publishing into the Author Assist stories of the participants.

The basis of grounded theory is the inductive build-up of a systematic theory that is based on observations. The theory evolves throughout data collection as the concept categories are identified, linked, and refined, allowing for something of a “recruiting process”, so that insight from initial collection informs subsequent collection and analysis choices. The theory is continually tested by more observations in each subsequent participant interaction.

### 3.4.2 Part two

The test of the theory generated by part one came from qualitative content analysis applied to the structured interviews in part two. Assumptions exist as soon as a process map has been established. As described by Cho (2014), “a researcher who uses qualitative content analysis aims to ‘systematically describe the meaning’ of materials in a certain respect that the researcher specified from research questions.” (55,60)

The purpose of the second part of the study, and its link to the first, is to inform improvements to the Author Assist programme by allowing participants to comment on theories that arose from the in-depth interviews. Part one created an understanding of the

interviewer as to what actually *happened* start to finish within each author and assistant pairing, and the second part asked a wider audience to confirm or deny the conclusions drawn from these stories and relate their individual research and publication landscape to suggestions for improvement of the programme. Because of the build-up of a theory through a grounded approach, part two was not possible until after the exploration of the process and formulation of the questions in part one.

Participant contact information exists in an AfJEM Author Assist database. Participants were contacted for the second part of the study via email and asked to participate in a one-time audio-only (telephone or teleconference) interview on the grounds that they participated in Author Assist (either successfully published, rejected, or in progress). The study was explained to the participants, as were any potential benefits, limitations, and ethical considerations (Appendix A and B). The interviews were made up of a standardised list of questions for each author that the interviewer did not deviate from. Several asked for simple demographic and background information before posing open-ended questions on the programme. These questions were formed as a result of analysis of the part one interviews.

### 3.5 Data analysis

Part one data analysis followed Charmaz's three part coding process: Initial coding, focused coding, and theoretical coding. Initial coding, similar to "open coding" first employed by Corbin and Strauss, pertains to the "initial discovery of categories and their properties". Focused coding then follows to narrow the categories down to frequent and most important codes. Theoretical coding looks for relationships between the large coding categories to generate theories. (53,55,62)

The analysis goal following this method was to reduce data both physically and conceptually in order to facilitate the search for commonalities and development of theme categories. Physical reduction occurred by organising text fragments into columns by central ideas (categories), which arose as transcripts and notes were read and reread. Fragments are listed in the category framework by a single identification tag that denotes the interview from which it derives and place within that interview. These codes "shrink" the data physically for better visualisation, while also allowing the interviewer to easily re-locate full quotes within the original data.

The in-depth interview categories arose as the transcripts were read and re-read, based primarily on different stepwise sections of the process as a whole. The number of participants addressing each category was tracked, and then themes within these section categories were then identified based on the reaction/opinion of each participant to the section they brought up. For example, one major category was "Process timeframe". Within that, themes include "Length of timeframe", "Challenges regarding timeframe", and "Appropriateness of timeframe." A branched code organisation arises from here, as sub-themes are identified: "Length of timeframe" is broken down into "Length of timeframe due to outside job responsibilities", "Length of timeframe due to delays in communication", and so on. Codes were then evaluated for clarity and meaning, and assigned back to text fragments within the original transcripts to determine frequency and patterns in emerging themes amongst and between interviewees.

In part two, the first categories during analysis were derived primarily from the research questions, as suggested by Mayring (54). Themes within these categories were then deductively developed and refined based on the ways the questions were addressed by participants, to more or less determine the number of participants responding in each way to each question. Once meaning units were established, the interviewer attempted to ensure category development was both "mutually exclusive and exhaustive", so that no data was split between categories, and enough categories existed to encompass all important data. The outcome is a concise set of material formatted as themes that address the research questions.

## Chapter 4 - RESULTS OF THE STUDY

### Introduction

This chapter begins with background data on the participants, partly extracted and summarised from an AfJEM database of Author Assist commissions, and partly self-reported by participants during this study. Themes and sub-themes arising from the in-depth interviews on the Author Assist experience are then reported by participant type (author vs. assistant) to reveal the “process” of Author Assist, followed by suggestions for the programme by the other ten participants in response to the interview results.

### 4.1 Descriptive

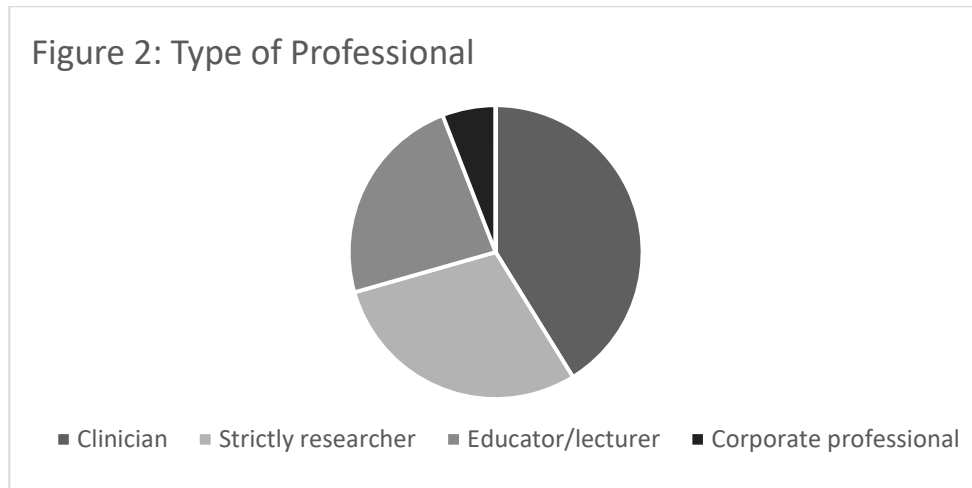
*Table 4: Basic Author Assist Data*

Submission Type			Reason for referral		
	Total*	This study**		Total	This study
Original research	21	7	Pre-submission	5	2
Case reports	4	4	Desk reject	10	5
Narrative report	2	2	Post peer-review reject	15	7
Concept paper	3	1			
TOTAL (n=)	30	14		30	14
Time in programme (days)			Outcome		
	Total	This study***		Total	This study***
Mean	153	210	Published	12	6
SD	138	43	Removed	5	3
Range	21-580	110-255	Rejected	2	1
			In progress	11	2
TOTAL (n=)				30	12

\*Number of manuscripts processed through Author Assist as of December 2015

\*\* Total manuscripts represented by authors interviewed or surveyed for this study

\*\*\* Based only on the twelve manuscripts represented by the seven interviewees



The highest level of qualification completed by six of the ten participants is an MD (Figure 2). Three others hold PhDs without an advance clinical degree, and one has completed a master's. At the time of their participation in Author Assist, four were still enrolled as students. Table 5 reports the countries in which authors originate, and completed their secondary and tertiary education by income level. The income levels are based on the categories created by the World Bank (104). The average amount of time since completing their last education or training is 3.8 years (range 0-10 years).

*Table 5: Countries of origin and education*

(of 10 participants)	Low-income	Middle-income	High-income
Country of citizenship	4	5	1 (Saudi Arabia)
Country of secondary education	4	5	1 (Saudi Arabia)
Country of tertiary education	2	5	3 (Saudi Arabia, UK, Italy)
Country currently practicing	4	4	2



## 4.2 Part one: The process

Each Author Assist partnership begins in one of two ways. The manuscript of the author is either rejected for publication after it is submitted independently by the author, or the author registers for Author Assist with a finished or nearly finished manuscript prior to submission. Of the four authors interviewed for this study, two were referred for Author Assist following post-peer review rejection, one was referred following a desk reject (pre-peer-review), and one is currently working with two assistants on two separate manuscripts, having requested assistance for both prior to submission.

The three assistants interviewed, who have worked on a combined seven manuscripts, were all contacted each time via email by the journal asking if they would like to take on a commission. When accepting the project, the assistants for the most part recall being very familiar with AfJEM, having a general understanding of the goals of Author Assist, and having very limited knowledge of specifics of the manuscript or type of assistance needed.

Authors and assistants had vague, if any, recollection of formal discussion of roles, responsibilities, outcomes, or expectations before commencing revision, and there seemed to be a consensus that the process “wasn’t very well explained”. None of the authors remembered if they had signed a memorandum of understanding or other document, and were not “overly concerned about what the details of the arrangement were”. All, however, were able to find an Author Assist policy in their emails during the interview, sent during the first communications with the journal (Appendix G). One assistant, when asked if he was given instructions by the journal, or told anything about the nature of the work or level of commitment, responded:

*“I remember I vaguely asked something; I don’t think I asked for too many details, because the concept just seemed like it was fun to me, so I don’t think I pressed even for a lot of details if I remember correctly.” (Ast3.27)*

The authors expressed similar nonchalance with regard to the first stages of the process, or any attempt at formality, and seemed content to trust someone who “knew this information already: how to get accepted” and “knew what the requirements were”.

All interviewees reported very little involvement of the journal after matching assistant and author and completing introductions (Table 6):

Table 6: Involvement of the journal

Author	<p><i>“No mediation. But of course, [the editor] would ask ‘are you getting ready the paper’ because then it was taking some time and they wanted it published.” (Au1.13)</i></p> <p><i>“So there wasn’t any intervention from [the journal], just ‘where are you’ in terms of developing something and all that.” (Au4.19)</i></p>
Assistant	<p><i>“No, I think they should be hands-off... just letting us do it all on our own was the right way to go.” (Ast1.84)</i></p> <p><i>“Once the journal was actually, once they had connected me to the actual author, they basically left it to us. They provided us with the framework that they wanted the manuscript to look like in terms of word count, layout and whatnot, but then essentially left us to—I don’t want to say to our own devices, but left us to, to sort it out ourselves.” (Ast2.22)</i></p> <p><i>“Not a whole lot of mediation. They gave us, you know, some style guides and whatnot, but that was about it.” (Ast3.37)</i></p>

The interaction between author and assistant for all partnerships occurred exclusively via email. Each interviewee described a process involving regular back-and-forth of manuscript drafts with tracked changes between author and assistant:

*“So either every week, or every other week we were communicating. So I was sending him the corrections that he asked me to correct; he would do a track changes, and then I would send it back to him.” (Au2.65)*

One assistant explained the nature of the back-and-forth relationship as “like a senior faculty member working with a junior faculty member”, albeit acknowledging the seniority and subject matter expertise of the authors (“...may have been just as senior as me, but they needed the kind of wording help with the paper. Because I looked them up, and they definitely had published before.” And “very clear that they are very highly skilled”). Another assistant described the process in a similar way:

*“[the author] took the first pass at the paper; he wrote the whole first draft, gave it to me, I gave him feedback, and basically I was like “here are the things I would think about”, and then made some edits, sent it back to him; he is editing it, sending it back to me, then I am reading it again...” (Ast1.60)*

The lengthy timeframe was a recurring theme brought up by all seven interviewees. Five of the interviewees suggested that they were responsible for delays in the process, and one author and one assistant mentioned delays in their partner’s communications or responses. Table 7 lists examples of phrasing regarding the length of the process. For all completed manuscripts by this group of interviewees, the mean time from referral to publication decision was 195 days, ranging from 110 to 225 days. One original research manuscript and one case report by the same author have been in progress for 255 and 207 days, respectively.

*Table 7: Length of the process*

Author	<p><i>“But it depended, you know, on my availability to finish. And that is why it took some time. Because sometimes as a resident, you are tired and could not do other work.” (Au2.68)</i></p> <p><i>“That also took some time, you know, getting back to her. Because sometimes it would take some two weeks before I would submit the changes to her and then she would look at it again and do some changes.” (Au4.90)</i></p> <p><i>“Maybe she wouldn’t understand why I was taking a long time to get back to her. That was my only challenge was that she think ‘why am I taking so long’ to do changes.” (Au1.49)</i></p> <p><i>“It took quite a long time, until it was published.” (Au4.42)</i></p> <p><i>“I would get something back from him, but I’d turn it back to him maybe in the week. And then there would be a bit of time lag on his part.” (Au3.49)</i></p>
Assistant	<p><i>“I think it took a longer time than I would have liked, but that was mostly on me.” (Ast1.50)</i></p>

	<p><i>"I remember there being a period where there was a little delay that was my fault. I was in Africa and had a couple other projects going on so it took me 3 or 4 weeks to get back to him." (Ast3.71)</i></p> <p><i>"...my guess would be probably a bulk of the slowdown was on me. Like I think it might have taken me, there might have been a couple times where it took me longer to get out a draft..." (Ast1.55)</i></p> <p><i>"...back and forth with him took a little bit of time... I'd work on it for, you know, a week, send it to the principle author, and then I might not hear from him for a month, month and a half?" (Ast2.44)</i></p>
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Table 8 lists responses by both authors and assistants when asked "What type of assistance was actually provided?", in order of frequency mentioned.

*Table 8: Types of assistance provided (Part one)*

Assistance type	Frequency mentioned*
Structuring to abide by journal submission guidelines	8
English language editing (spelling and grammar)	7
Response to reviewers (post resubmission)	4
Tuning wording toward journal readership	3
Restructuring to follow standard scientific reporting format	2
Making the language "more scientific"	2

\*Of a possible twelve manuscripts mentioned by authors + assistants (seven by assistants, five by authors – two manuscripts from each group are overlapping, because both the assistant and author of the same commission were interviewed)

Other types of assistance that were only mentioned once during the interviews include:

- Liaison (direct communication) with the journal
- Help with technological aspects of the submission platform
- Expanding a background search and literature review
- "Reigning in" the scope of the paper to better speak to AfJEM's priorities

- Presenting and organising the methodology
- Proper referencing/citation

Authors in the second part of the study were also asked to select all types of assistance rendered with their manuscripts. Table 9 shows those responses in descending frequency order. The only “other” type of assistance not on the list posed to the participants was: “very few (one or two) spelling mistakes”. Authors selected anywhere from 1 to 9 different types of assistance rendered (avg= 3.11 types) per manuscript.

*Table 9: Types of assistance provided (Part two)*

Assistance type	Frequency mentioned*
Presenting or organising the study methodology	3
Structuring the manuscript	3
Revision following post-submission peer-review	3
English language editing (grammar or spelling)	2
Following the journal guidelines for submission for publication	2
Translation from a foreign language to English	1
Deciding which type of manuscript to publish	1
Designing the experiment	1
Presenting or organising the study results	1
Compiling or analysing study results	1

\*Of a possible twelve manuscripts represented by author survey responses

When asked about the workload ratio between assistant and author, the three assistants were in agreement that authors “definitely did the bulk of the work on the paper”. As mentioned, one assistant compared the process to that of a senior faculty member mentoring junior faculty on a research report:

*“So it is a lot of just back and forth, like they write the bulk of the paper, they write the whole paper, say, and then as the kind of senior faculty person you are like reading over their paper, making edits, rather than drafting the whole thing from scratch, or drafting sections from it from scratch.” (Ast2.70)*

It was difficult for assistants to guess how much time was actually spent on each manuscript, but one suggested “a good few hours. Maybe in total a full day”, and another spent “probably three or four half days, plus a handful of quick replies”.

It seems as though the work ratio is split solely between the author and assistant, with very little involvement from the journal, but also no direct communication between the assistant and any other author on the paper. Assistants were asked outright if they had worked with anybody except the corresponding author throughout the process, and all responded in the negative. One assistant, however, despite communicating with only a single author, frequently referred to his partner in the plural (“they are doing great things”, “what resources do they have”, “these guys clearly have some background”), suggesting an understanding that the research was a group effort on the part of the authors.

The four authors also maintained that they were the only ones responsible for the publication and Author Assist portions of the research process, although all of the completed manuscripts list multiple authors. One author explained how institutional supervisors and other research partners were involved in the later stages of the process, in an approval rather than operational role:

*P\*: ...and the time also, because then, you know, we were not communicating with all the, what would be all the authors on the paper. So after we were done, then they also required some changes because their names were going to be on it. But most of the work in structure and content were done by [the assistant] and myself.*

*I\*: Just the two of you. So none of the other people that were authors were in contact with [the assistant], or were they?*

*P: No, no, so the final, maybe month, then we would copy everybody. Because it was going to be difficult, if we were going to copy everybody and then wait for everybody responses—so that is why most of the work was between the two of us. And then, when he thought that well ‘this is getting ready’, then we needed to let them know. And it required now, subsequent editing. For example my head of department also wanted some changes, you know? So that required a turn around. But not very much.*

*\*[P= participant, I= interviewer] (Au2.69)*

Use of outside resources or supervision was a similar theme discussed by many interviewees. The interviewer was curious to know if institutional support was available throughout the study and writing process, as well as what alternatives to Author Assist existed for each

author. Although not necessarily generalisable to the entire continent, a problem mentioned by one author from West Africa was the position of medical residents within the educational system:

*“... that is something that is challenging, that there is not a lot of resource available for residents. If you were a student of the university then that is different, because you can have access to the full resource of the university. But our residency is not linked to the university, and that is something that I thought is very weird, because you need a lot of resources which you cannot on your own try to subscribe to all of these kind of journals and still you don't have access to them.” (Au1.82)*

This same author mentioned help available through “supervisors at the department, but they are very busy”. Two of the three other authors spoke about formal education in study design and methodology as part of their medical curriculums, but noted that the training stopped short of publication assistance. Before going through Author Assist, one author said he “had no idea that different journals required different structures, and referencing, and that you have to look at each journal first before publishing”, and did not know, even after a manuscript is edited and polished, “how to get accepted”.

Assistants for nine of the twelve manuscripts represented by the interviews were involved all the way through submission and peer review. One assistant, who has been commissioned for two manuscripts, was unaware at the time of the interview if either one had ever been resubmitted. Assistants for four of the manuscripts were involved in post-submission editing and response to reviewers’ comments. The assistant was included as an author for every manuscript accepted for publication by AfJEM. While not guaranteed by the journal, authorship for the assistant is advertised as a possibility, subject to fulfilment of the criteria for authorship by the International Committee of Medical Journal Editors, to which AfJEM subscribes.

#### 4.2.1 Rejected manuscripts

One significant limitation of this study is the lack of specific focus on manuscripts that were not accepted by AfJEM after going through Author Assist. None of the five manuscripts represented by the authors interviewed were rejected for publication (albeit two remain in progress). However, each of the three assistants interviewed were commissioned for at least one manuscript that was ultimately rejected or removed from the programme. One manuscript, which the assistant noticed was outside of the journal’s scope at the *start* of the partnership and preceded regardless, was rejected by AfJEM upon

resubmission, and then ultimately published in a different journal. A second assistant's involvement with one particular manuscript was summarised by him as follows:

*"...this paper essentially required complete rewriting, it was just in no shape to be published, it was like much-- it was almost like taking a med student; I actually had a med student write a paper with me and it started off better than this was. And then I just kind of ran out of steam, and the person never got back in touch with me. I said like 'let's check in' or whatever, and we both kind of dropped the ball on it so it never really moved forward." (Ast3.73)*

And

*"I took a first pass at it and was like 'wow, this is going to be a lot of work', and then I emailed back in forth with them a little bit, and then it just kind of got dropped after that" (Ast3.75)*

Table 10 contains reasons for discontinuation of the three separate manuscripts reported by assistants.

*Table 10: Reported reasons for removal of manuscripts*

Reason/theme	Sample phrasing, verbatim
Significant language issues	<i>"would have need to have been reworded significantly"</i> <i>"essentially required complete rewriting"</i> <i>"quite a substantial edit"</i>
Workload exceeded expectations	<i>"wow, this is going to be a lot of work"</i> <i>"... 'oh, this other one worked so well, and it was a lot of fun and I want to do this again, and so I can do this', and I think just with my inexperience I did not realize how much more time it was going to be and how much more I was going to have to really put into it."</i>
Inappropriate or non-compelling presentation	<i>"It was a little too critical of the system, and a little too experiential"</i> <i>"trying to get more of the underlying problem rather than just point out the deficiencies. And I don't think any of it was ill-</i>



	<p><i>intended, I think just the way it was written it came across that way.”</i></p> <p><i>“we need to make this a lot more scientific”</i></p> <p><i>“it was just-- the way it was written was just not-- there wasn’t any of the stuff we would want to know, like: what kind of resources do these guys have, what training is there, why did they, why were these things that clearly should have been done not, like, all their points about what should have been done were right, like it wasn’t that they were wrong with anything, it is just like “well there has to be a reason why”, like “why is this” rather than just pointing out what the problems are.”</i></p>
Outside journal scope	<p><i>“It just wasn’t really emergency medicine. It just wasn’t a great study for the journal, I don’t think, so it wasn’t just about writing it.”</i></p>

### 4.3 Part two: Themes and reactions

#### Introduction

This section reports results of the structured interviews with ten authors, based on analysis of the part one interviews. Background data for these authors was reported in section 4.1, based partly on information extracted from an AfJEM database of Author Assist commissions, and partly self-reported by participants during this study. Responses are, for the most part, reported in the order in which they were asked (See question list, Appendix E).

#### 4.3.1 Understanding and expectations of the programme

##### *Resulting question*

*How much background information should be divulged before beginning an Author Assist partnership?*

*How can the memorandum of understanding and agreement processes be more effective?*

*How can the level of commitment and amount of work be most accurately conveyed before beginning the process?*

## Response

All authors and assistants are given the Author Assist policy, and asked to return a memorandum of understanding to the journal prior to commencing the partnership (Appendix G). Participants in this study had little to say about the first stages of Author Assist, and none expressed any need to further formalise the commissioning process. Phrasing includes: “Not much else is needed there, no”, “I don’t think any problem with that”, and “It is fine, the matching part was simple”.

One assistant recommended the journal more thoroughly “triage” manuscripts to be able to more accurately convey the amount and type of work required for each one. He suggested at least “putting it into two big categories”: “heavy-duty rewrite” versus “more simple language and grammar stuff”, so assistants can be realistic about their commitment to the commission. Authors did not seem to notice any related issues with understanding of the level of commitment required. Three suggested that overall commitment was irrelevant because the manuscript “must get published no matter what”. Three others “assumed the hard part was already done with the [writing]”, so did not consider much of an extra burden with Author Assist. One author suggested AfJEM make available a sample timeframe, or “typical experience” document as a resource to provide participants with an understanding of the process, although did not admit that it is something he personally desired when initially enrolling.

When asked if they thought their manuscript would be accepted for publication when submitted originally (pre-Author Assist), three of the ten authors replied “definitely”, five replied “I thought so, but wasn’t sure”, and two replied “no, I did not think so”. When asked whether they thought their manuscript would be accepted after resubmission following Author Assist, seven replied “definitely”, and three replied “I thought so, but wasn’t sure”.

### 4.3.2 Role of assistants and authors

*What should the author’s role be throughout the process?*

*What should the assistant’s role be?*

*What should the workload ratio between author and assistant be, and how can that be monitored?*

### Response

Respondents suggested one of two models about the nature of the relationship between author and assistant: the first was the previously mentioned “senior faculty mentoring junior faculty” notion, and the second was “authors have institutional and topic expertise, and assistants have research and publication expertise”. Two of the ten respondents alluded only to the senior/ junior model, six of the ten mentioned the division by area of expertise, and four suggested the interaction is and should be treated as both. One respondent summarised the latter as such:

*“In terms of qualifications, I had been in the system. I knew how the process started, so I had an institutional memory. Maybe I wasn’t the most qualified in writing, but the assistant is an expert. I lacked a lot of skill in the writing, but was expert in the process” (R4.7)*

In terms of workload and workload ratio, every single respondent said that their assistant had done sufficient work to deserve authorship. A full restructuring is more work than peer review, and takes more time. Nobody, including the three assistants interviewed, suggested the division of work between author and assistant was unfair or poorly managed, and none suggested further involvement by the journal. That being the case, it seems as though several involved back-and-forth editing sessions is considered reasonable, with the author doing the bulk of the writing, and the assistant “giving resources, making suggestions for track changes, fixing the wordings that are already there”.

One question, that will be discussed in Chapter 5, is where the line is drawn between an appropriate amount of work and too much to take on, for any given commission.

### 4.3.3 Additional author involvement

*Who else is involved in the process, and should the journal engage them?*

*How should issues of hierarchy within research institutions be addressed?*

### Response

All manuscripts represented by this group of respondents and those who interviewed list more than one author. Although it cannot be assumed, because it was specifically asked only to interviewees and not survey respondents, no respondent mentioned co-author interaction with AfJEM or the assistant. It was suggested by one author

interviewee that, because other parties are always involved, “they also required some changes because their names were going to be on it.” Four respondents said approval from their institution and supervisor (regardless of authorship stance) should occur at the end via communication solely with the corresponding author, and three others said that input and approval should occur toward the end of the process but through direct communication with the author *and* assistant, for example by “link[ing] all into the emails when we are almost ready to submit”.

One interviewed author and one assistant discussed the existence of rigid hierarchy within the local institutions, often governing authorship. The author explained that authorship for the assistant was no question because of the amount of work involved, but placement in the list of authors was of some concern:

*“I think the discussion was where to place her, because after all the other people came in...And they said “ok, she can be the last one”. But if she is the last author and the paper coming from here, that would not be fair because we had my head of department on the paper, we had the National Ambulance Service, and we had the PI for the programme...” (Au3.19)*

The assistant expressed his beliefs of this as a systemic cultural issue within African academia:

*“There is an ethical question from their perspective that is part of publishing stuff. There is a culture of everyone in the department of getting their name on the paper, many of whom had absolutely nothing to do with it at all. So there are ethics involved with who is on the paper. Who should be listed. And that is something that needs to be learned. And part of getting stuff published must include being ethical about who is claiming credit for it. Because I only had contact with a single person, and it wasn’t a very complex study.” (Ast3.40)*

Five respondents said their head of department must always be listed on the paper, regardless of their involvement. Two of the authors have produced other publications as the sole author, and six said they would like more instruction or resources as part of Author Assist on authorship guidelines.

#### 4.3.4 External resources (barriers and support)

*What other types of resources were available to you throughout the research and publication process?*

*Does the journal provide enough information on access to research and publication support?*

*What additional information or resources would you like to see the journal provide through Author Assist?*

#### *Response*

Table 11 lists all the types of resources available to participants during Author Assist mentioned in interviews, and asks respondents to rank their degree of helpfulness in preparing for submission. There were no suggestions for other types of resources used or needed.

*Table 11: Author resource use during Author Assist*

	Very helpful	Somewhat helpful	Somewhat unhelpful	Unhelpful	Not needed or not used
Resources available on AfJEM's website	5	3	0	0	2
Resources available from your place of work or study	4	2	4	0	0
Direct communication with your Author Assistant	5	3	2	0	0
Resources provided by your Author Assistant	6	2	0	0	2
Direct communication with AfJEM	5	3	2	0	0
Direct communication with other supervisors or colleagues	3	4	2	0	2
Personal (independent) study on research or the publication process	8	2	0	0	0

#### 4.3.5 Method of communication/interaction

*Is the email-only method of communication effective?*

*Should face-to-face (incl. teleconference) interaction be suggested or required?*

*Should the journal be more involved either before or during the process?*

#### *Response*

Every partnership represented by this study was conducted solely via email exchange. There was no phone or teleconference interaction, nor were any of the author and assistant pairs located in the same geographical area while going through Author Assist. The “track changes” method employed by the working pairs was not suggested by AfJEM, but seems to be the best, and perhaps only appropriate, method of remote collaboration. Table 12 shows respondents’ opinions of their communication with their assistant and the journal. When asked why they responded “Fair” in two categories, the two respondents both cited difficulties with significant time delays in the back and forth between revisions.

*Table 12: Level of communication through Author Assist process (n=10)*

	Excellent	Good	Fair	Poor	N/A
Communication with your assistant	8	0	2	0	0
Communication with the journal	9	1	0	0	0
Revision of the manuscript with your assistant	5	2	4	0	0

None of the authors or assistants believed the journal should be more involved once the process has begun, and none believed different methods of communication should be required. The only exception to the journal involvement, as suggested by several interviewees as a potential improvement, is “*maybe artificially imposing some timeframe on it, like ‘you need to get your draft back to the author within three weeks of when we get it to you, or of when we introduced them to you,’*”, and “*each response from the author you can take no more than two weeks, or something like that. So maybe putting some timeframe on it*”. But others suggested there is “nothing that can be done about” the differences in work schedules between the two participants, that delays will sometimes be inevitable.

#### 4.3.6 Motivation and incentives

*Why did you participate in Author Assist?*

*What incentives exist for authors? For assistants? Should these be “sold” in a formal package?*

*Was authorship deserved by the assistants in each of the partnerships you were involved with?*

*Should authorship be automatic?*

#### *Response*

Assistant understanding of authorship before their start with the programme ranged from “I was not aware that co-authorship was part of the equation; I was quite surprised when that came up after the fact because I certainly did not expect it” to “I think authorship is something that was made clear to me... maybe I just assumed.” Table 13 lists the responses by assistants when asked what their motivation was for participating in Author Assist:

*Table 13: Assistant motivation for participation*

Assistant 1	Assistant 2	Assistant 3
<ul style="list-style-type: none"><li>– Seemed fun</li><li>– Found it rewarding</li><li>– Got to interact with someone wouldn’t have had other contact with</li></ul>	<ul style="list-style-type: none"><li>– Programme has merit</li><li>– Had expertise, and long-time involvement with journal</li></ul>	<ul style="list-style-type: none"><li>– Encouraging publication in Africa is a “really good vision”</li><li>– Interest in developing world medicine</li><li>– Opportunity to help “hands on”</li></ul>

The reasons for author participation are listed in order of frequency mentioned in Table 14:

*Table 14: Reasons for author participation*

Reason	Frequency mentioned*
Collaboration	9
<ul style="list-style-type: none"><li>- With experienced publisher</li></ul>	<ul style="list-style-type: none"><li>- 7</li></ul>
<ul style="list-style-type: none"><li>- with experienced researcher</li></ul>	<ul style="list-style-type: none"><li>- 4</li></ul>
<ul style="list-style-type: none"><li>- with experienced EM professional</li></ul>	<ul style="list-style-type: none"><li>- 1</li></ul>

"Just to get published"	4
To learn about publication process	3
To include an esteemed author on paper	2
To be able to mentor others in the future	2
To make resubmission process more efficient	1

\*of 10 total participants

There seems to be consensus that having someone that, as one author put it, is "like having an editor you have the privilege of having automatic contact with frequently" is a significant personal boon to the publication process. In addition, as mentioned, not one participant believed that authorship should *not* be an automatic incentive for assistants, and that there is "really no need for discussion" regarding this matter. Suggestions that the process of formalising the agreement between author and assistant regarding assistant authorship prior to committing to each commission were also consistently brushed off, with phrases such as "details are not really necessary", "I don't think we need to worry about the Memorandum of Understanding", as well as a general lack of memory of the first steps of the process.

#### 4.3.7 Author challenges

As the lengthy timeframe (delays in back-and-forth response), and workload outside of the programme were the only two significant challenges mentioned by the interviewees, they were the only two specifically posed to the survey respondents. No respondent answered when asked what other challenges arose during their participation.

##### *Timeframe*

*To what degree do timeframe challenges occur because of the structure of Author Assist, and to what degree are they external?*

*What can the journal do to address some of these challenges?*

##### *Response*

Delays in passing a draft back and forth between author and assistant is something that seven respondents agreed was a challenge contributing to the long amount of time the process takes. However, due to other responsibilities-- or the fact (reported by three



participants) that the delays were on the other person—only four of the seven believed there is something that the journal could do to address this. Their suggestions include “make deadlines for each person to respond”, and “journal asks more how the process is going”. The other three matched the sentiments of one assistant that “you are on different schedules from the person, but there’s no way to avoid that, right? ...sometimes those delays are inevitable.”

#### *Other responsibilities*

*Describe the challenges that exist with regard to the outside workload (education, employment, personal commitments, etc.) and participating in Author Assist?*

*To what degree do these challenges occur because of the structure of Author Assist, and to what degree are they external?*

*What can the journal do to address some of these challenges?*

#### *Response*

Five of the respondents answered that “other responsibilities were responsible for time delays in working on the manuscript”. The corresponding author, as discussed by one author, is often junior faculty at his facility, and has “many, many tasks on his hands”. Another, who was chief resident at the time of participating in Author Assist, reports:

*“The chief resident had a lot of responsibility than usual. So maybe [the assistant] wouldn’t understand why I was taking a long time to get back. That was my only challenge was that she think “why am I taking so long” to do such a, changes.”*  
(Au3.22)

None of the authors, however, including this interviewee, suggested that their assistant “expressed frustration” with regard to the timeframe or multitasking. Six of the survey respondents listed their assistant as “very understanding”, and one “understanding”, and the interviewees used phrases such as “I don’t think he was frustrated in any way”, “She was very understanding, and very empathetic”, and “I don’t think I saw any frustration in the writing at all”.

When asked if the authors themselves were frustrated at Author Assist on top of an already heavy workload, two said yes. The others had mixed feelings, including “Maybe, but what can you do if you want to be published?”, “Sometimes I was yes, frustrated”, and “No, it is a lot of work, but you getting a lot out of it”.

#### 4.3.8 Outcomes (effects of Author Assist on future research career)

*What did you learn about publication from Author Assist?*

*What lessons from Author Assist have you incorporated into your career as a researcher?*

*Have you successfully published since participating in Author Assist?*

*If so, by what means?*

*Have you assumed any mentorship roles within research or publication because of your participation in Author Assist?*

#### *Response*

Answers by survey respondents when asked whether they have published in an academic journal since participating in Author Assist are listed in Table 15.

*Table 15: Types of publication after Author Assist participation*

Have you had manuscripts accepted for publication since Author Assist?	# of respondents
Yes, using a paid editing service	1
Yes, using free editing resources	3*
Yes, without using any editing service	2
No (I have had other manuscripts rejected)	0
No (I have not submitted any other manuscripts)	0
Other: I have plans to submit soon	1

\*types of resources include: University resources; AfJEM website; and a supervisor

Below are three author responses to “What did you learn from Author Assist”, with individual points highlighted. Table 16, below, shows survey responses to the underlined points:

*“I learned a lot of things. So, the fact that you could—that you have people that have done it before to help you. And maybe—it did not occur to me, so I am supposed to write that should I ask for help. So for anything that you want to do, let’s say you want to do any kind of research—[1] there are people who’ve done it before, and you can always count on them for help. And [2] you can also ask the journal.”*

(Au4.75)

*“I learned [3] how to re-structure a paper, you know, [4] what editors would be looking for. And even [5] grammar and other things, how it should be consistent, you know—[6] pacing, so there are a very lot of little things, you know, and even [7] referencing, using it appropriately. So there were so many things that I learned from this Author Assist program, which I’ve taken into my career as well.” (Au1.85)*

*“...First to [8] look at what the journal requires, instead of you trying to come out with your own – I mean, sometimes you think well it is very obvious to look for what the journal is saying to the authors... So failure for to know that the journal will require certain structure in your paper, and the journals require a certain kind of diction, a certain kind of English, a certain kind of.. grammar, and all that. Then the fact that all journals require different kinds of reference styles. So those are the things that I have taken into other publications.” (Au1.70)*

Respondents were asked to list all areas in which Author Assist has helped them with future publications and research, regardless of whether they have successfully published since participating in the programme. There were no “other” responses to the question that were not originally brought up in in-depth interviews.

*Table 16: Author lessons learned from Author Assist*

Lesson	# responses
1. Reach out to more experienced advisors (Ask for help)	4
2. Ask the journal for resources or clarification	4
3. How to restructure a paper	7
4. How to know what editors are looking for	3
5. Grammar rules and usage	5
6. How to maintain consistency throughout the article	1
7. Appropriate use of references	5
8. To look at journal requirements before beginning	6

Seven authors reported having a leadership position with their institution, or having a general supervisory or mentorship role. Four authors said they have taken on mentorship roles specific to publication since participating in Author Assist. These roles in particular

include assisting with location of resources (background, literature review, and referencing) and reviewing specific journal guidelines, in addition to wider research mentorship such as study design, data collection, and analysis.

#### 4.3.9 Programme improvements, wider contributions

The overall goal of this study is to suggest changes to the programme that will improve the process for individual authors and assistants, while effectively addressing issues with writing and publication within the wider context of African emergency care research and development. All 17 people participating in the study (three assistant interviewees, four author interviewees, ten author survey respondents) were asked what they can suggest for improvements to Author Assist, and what resources they would like to see exist that would improve the quantity and quality of publication within their professional environment.

##### Questions

*What type of assisting should Author Assist offer?*

*How can AfJEM be more effective in addressing barriers to publication within the context of African emergency care?*

*What standardised components could be introduced to make the process more effective?*

##### Response

Every author responded that they would participate in Author Assist again, and all describe the programme as “worthy” for the system, and “worthwhile” for individuals. Several main themes within improvement and standardisation arose:

##### *Broaden the scope of assistance*

Many authors, when asked how Author Assist should be trying to help, suggested a broader “research assist” process that encompasses publication as one component. Two interviewed assistants brought up the topic as well, but with some degree of hesitation with regard to the feasibility of Author Assist employing such an expansion. Table 17 presents these thoughts:

*Table 17: Suggestions for Author Assist scope expansion*

Authors	<i>“So I think in addition to trying to help people who have submitted papers, the AfJEM could also reach out to people with the question:</i>
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	<p><i>'Do you have any idea about what trying to-- any research idea?' Because if you have a research idea then the Author Assist could help them out to generate the data needed to answer those questions."</i> (R3.22)</p> <p><i>"So, do they have any idea at all. Even if they don't have any idea, then you could-- the author assistant could ask them so what do you see in your vicinity, and then from that they could generate a question and help them-- 'ok this is how you need to collect the data on this, then this is how we need to start, this is how to calculate a sample size', or something."</i> (R8.30)</p> <p><i>"Because-- so the person who has submitted can be a different level, the person who has an idea can be at a different level but does not know how to start, the person who does not have any idea at all-- because the whole idea is to get publications on Africa. So we can help them get ideas-- those who have ideas to how to gather data. Those who have data on how to write. Those who have written on how to polish it. So I think it is a whole spectrum of trying to help people write from Africa. That is what I think the Author Assist should be looking at now."</i> (R1.29)</p> <p><i>"But I think it will be nice to help people through the whole spectrum of research."</i> (R8.34)</p> <p><i>"It is like there could be some resources which are available, people may not even know about these resources. It is not only those who don't have university-- they are part of it-- but you know helping them generate research ideas, research topics, helping them structure questionnaires, how to collect the data, how to analyse the data, you know, and all that, is what I am looking at"</i> (R10.41)</p>
Assistants	<p><i>"I think the only hole with Author Assist is if you don't really know how to design a study at all, then, the Author Assist is not going to help you. But I don't know if AfJEM could do, could feasibly do that. I think that'd be really hard to provide that service."</i> (Ast1.99)</p>

	<p><i>“Unless you can do Author Assist before research is even started. But then it is research assist, not author assist. So then the journal’s job is to make sure the problem is not with the paper, it is with the writing.”</i></p> <p>(Ast3.80)</p>
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### *Division of labour amongst assistants*

A second thought shared by several of the assistants, and brought up by two of the authors, is the idea of forming more of a conveyor-belt process of assisting: multiple assistants helping out one at a time with each manuscript. According to participants this could allow for more thorough contribution of assistants by allowing them to focus on a particular aspect of the revision. Each is involved for a shorter length of time, and can choose to “specialise” in an area within research and publication that interests them most, and in which they feel they can be most helpful. Table 18 lists thoughts on this improvement:

*Table 18: Suggestions for Author Assist improvement*

Authors	<p><i>“If AfJEM identifies oh, these are the strengths of the assistants, the author assistants, they can help with the language and grammar and structure, and this person has strength in statistics. Then I think after one person is finished with, let's say the structure, then another person can also go over and handle this potential author with statistics.”</i> (Au2.80)</p>
Assistants	<p><i>“I think... if the editors could, or the person who is going to be in charge of funnelling it to an author assist could have an assessment ...so kind of putting it into big categories...I think that would be, I think that would be helpful. I would like to do, in the ideal world I would like to do both of those things, but it is just a lot of time...”</i> (Ast2.12)</p> <p><i>“But what could happen is that there could be somebody who is very skilled in let's say, developing proposals, or writing research proposal questions, and there could be one person who is skilled in statistics and analysing the results, and yet another who is a very experienced writer, or is bilingual, or what.”</i> (Ast1.60)</p>

### *Other suggestions*

Authors had no further suggestions for improvements to Author Assist, but several other interesting questions and ideas came out of the interviews with assistants. One is a desire, expressed by two of the assistants, to have a more thorough analysis and characterisation of the article before it is assigned to an assistant, giving them the ability to “be more realistic about whether we can take it on”. In a similar vein, a more detailed assistant database was suggested as a way to ensure matchups are appropriate. One assistant attributed the removal of one manuscript from Author Assist in part to an inappropriate matchup: he believed that perhaps the author could have gotten all the way through the process if it had been identified early that the manuscript “may have been best handled by like a very senior author who has written a ton of papers and was maybe winding down in their career and probably had a lot of time to just mentor this person; that may have been the ideal fit.” The assistant believed the journal should collect specific information from all assistants on their publication background, current availability, topic interest, and interest and expertise within research and editing. At present, rough availability, contact information, and a list of areas of interest within Emergency Medicine is the information collected from each assistant.

Finally, one assistant raised the question of publication commitment to AfJEM:

*“There’s something slightly dubious about the ethics of getting someone to do a substantial rewrite of your paper and then submit it to a different journal...maybe it is something that people need to be reminded from the beginning.” (Ast3.79)*

He suggested that stricter, or at least more explicit, guidelines should be laid down by the journal in terms of both authorship (honest contribution claims), and publication loyalty, and that the onus is on the journal to ensure before Author Assist that the paper is within the AfJEM’s scope.

## Chapter 5 - DISCUSSION

### Introduction

This chapter characterises the themes emerging from the interviews; explores the meaning of the themes in the context of both a greater societal problem, and the specific operations of the programme; and discusses the feasibility of proposed programme changes. Themes will be discussed in the same order they are presented in Chapter 4.

### 5.1 Statement of the problem

AfJEM's Author Assist is the only publication assistance programme specific to Emergency Medicine and acute care, and the only free, journal-specific editing service targeting writers in low- and middle-income countries. Since its inception in 2011, no study has been done to collect or analyse feedback from those participating in the service, and this analysis is necessary to standardise the programme and maximise its ability to assist its target audience. There is a paucity of freely available publication resources for individual researchers in low-resource settings, despite increasing international awareness of the need for quality research out of the developing world. Several initiatives have attempted to address the lack of publishing opportunity and support for independent researchers, but never in a way as tailored as the services provided by AfJEM's Author Assist. This study aims to explore the components making up successful author-assistant partnerships and participants' perceptions of these components, and then determine what can be done to make Author Assist more efficient at addressing wider societal needs by targeting the individual researcher.



## 5.2 Discussion

### 5.2.1 Process

The increase in self-enrollment to Author Assist prior to journal submission in the last year could reflect wider recognition of the existence and need for the programme amongst African acute care researchers. While the overall enrollment rate has stayed roughly consistent since 2011 (five to eight enrollments per year), in 2015, five of the seven manuscripts revised in Author Assist were submitted by authors themselves, rather than referred by a journal editor after rejection. Young researchers in many of the emergency care hubs on the continent (facilities and institutions with which the African Federation for Emergency Medicine [AFEM] actively partners) are perhaps increasingly aware of AfJEM as a quality, internationally-recognised, peer-reviewed journal, and are further aware that the journal offers one-on-one publication support. One interviewed author has submitted two manuscripts for revision of his own accord. As a currently unpublished resident, his head of department, who has published in AfJEM multiple times, suggested the programme as a timesaving device:

*“I am sure there would be more to and fro with the reviewers; I don’t know how many times they would accept the reviews, but maybe eventually it would have gotten done. But I think this Author Assist eliminates to and fro between reviewers and then the author.” (Au3.67)*

The process itself, as has unfolded from these interviews, is similar in most ways to what the journal hopes occurs within each partnership. It is a peer-peer revision and publication support service, and this study produces evidence that shows that that premise is being adhered to. There is little journal involvement following matching and introduction, and most partnerships extend from Author Assist referral all the way through to publication decision. The goal with this study, once establishing that, is to address different parts of the process in turn to decide which areas contribute most to a positive publication decision, which areas are most helpful to the individual researchers, and how these parts can be improved.

### 5.2.2 Rejection and removal

Several themes arose around removal of manuscripts from the programme. As mentioned, rejection and removal were not central focus areas of this study, but the three

interviewed assistants were each involved with one manuscript that was never resubmitted. They cite significant language issues (presented in Table 10) that would have essentially required the manuscript to be “completely rewritten”, an inappropriate topic for the journal, and recognition once starting that the amount of work required would have far exceeded their expectations. One thing that these themes confirm is that removal from the programme was not active, forced, or even suggested by the journal. In each case, communication was simply dropped, or the partnership “ran out of steam” after recognition on the part of the assistant that the issues were more significant than what they had experienced with previous commissions. No procedure exists or was undertaken between the author and/or assistant and the journal to discuss these issues or be formally removed from the programme.

These findings also suggest that a more thorough screening of the manuscript and/or a more involved matching process may lead to fewer removals. One manuscript, for example, was first removed from the programme (the author and assistant stopped communicating), and later also rejected when the author attempted to submit on his own. According to the assistant, this manuscript “just wasn’t really Emergency Medicine. It just wasn’t a great study for the journal, I don’t think, so it wasn’t just about writing it.” Although the journal attempts to only refer articles within its scope, this case shows that the system for identifying such manuscripts before Author Assist could be honed.

“Workload exceeding expectation” is another theme that could be addressed by heavier journal involvement at the onset of each partnership. Matching of author and assistant and expectations of the programme will both be discussed in a later section. However, the findings on initial presentation of the manuscript to the assistant show that doing more to inform the assistant’s choice to accept a commission may reduce removal rate, or at least overall time spent per manuscript.

### 5.2.3 Understanding and expectations of the programme

The interviews show that first time author participants view the programme as a virtual guarantee to publication, particularly if the manuscript has already been rejected and referred by the journal itself. Seven of the ten authors thought they would “definitely” be accepted following Author Assist, compared to three when submitting before Author Assist. Inherent bias is present in this question as all authors’ first submission attempts were unsuccessful, and at the time of the interviews authors had either finished the process with a successful publication outcome, or were still in progress. It is impossible for the interviewer

to know, and even perhaps for the participant to gauge themselves, honesty in reporting their initial feelings of a now known outcome. However, the question does demonstrate confidence in the programme as an important factor contributing to decision to participate, and perhaps complete, Author Assist.

Authors understand the assistants to be “very knowledgeable” of the publication process, and someone who “already knows what to expect”. While motivation for participating is discussed in section 5.3.8, it is important to note that these perceptions of assistants are formed prior to authors accepting referral to Author Assist. The journal can never guarantee success with resubmission, which includes a peer-review blinded (both handling editors and reviewers) to Author Assist participation. However, the confidence instilled in authors in the abilities of assistants seems to influence initial agreement to engage with a partner, as well as continuation straight through to resubmission. As a factor influencing successful publication, therefore, the journal should maintain awareness of the importance of the attitudes of authors toward potential assistants when marketing, recruiting, and creating partnerships.

Anticipated commitment is one theme that came of probing participants on their expectations of the programme: where the line is drawn between an appropriate amount of work and too much to take on, for any given commission. An assistant for a manuscript that was ultimately removed without resubmission cites too great an investment required as the primary reason for ceasing communication with the author.

This is the same assistant who suggests that manuscripts be placed into one of two big categories prior to commissioning an assistant, based on the anticipated workload. He reasons that knowing this upfront would allow for assistants to be “more realistic” about their ability to commit to a commission. For-profit services such as American Journal Experts and Enago employ a tiered system for quoting based on the services required (81,84). Rather logically, for example, the size of the document, the time in which editing needs to be completed, and the type of editing are all taken into consideration of the price. A two page case report in need of minor language edits requires fewer resources and less assistant expertise than a 50,000 word thesis needing full translation and a restructuring of the methodology. AfJEM could look into a similar approach for categorising manuscripts upon referral. The system would not produce a quote (a term implying pricing schemes), but something like a “commitment ranking” that informs both the assistant and author what the journal believes needs to happen to make the manuscript publication-ready, and how much work that entails on the part of each. Again, both authors and assistants would know upfront

the best estimate of what it requires of them, allowing them to schedule Author Assist time appropriately, or, in the case of the assistants, admit that they are unable to accommodate the commission prior to commitment. It would have the added benefit of automatically creating clearer outlines of the roles of each participant once the process has commenced, as something of a “checklist” to adhere to as the revision progresses.

#### 5.2.4 Role of assistants and authors

There is very little involvement between the journal and the participants after matching and introduction, and the participants are unanimous in agreeing that no further interaction is necessary. Participants prefer the journal be “hands off”, and there is nothing to suggest that heavier involvement on the part of the journal – particularly without the staff resources to track partnerships full-time—would increase productivity or improve outcome. The only aspects of the process in which interviewees have mentioned it may be of benefit to involve the journal more is in the characterising of the manuscript, matching of assistant to author, and adhering to timelines, discussed in sections 5.3.3, 5.3.4, and 5.3.9, respectively.

Respondents suggest one of two models about the nature of the relationship between author and assistant: the first is the previously mentioned “senior faculty mentoring junior faculty” notion, and the second is “authors have institutional and topic expertise, and assistants have research and publication expertise”. Two of the ten respondents alluded only to the senior/junior model, six of the ten mentioned the division by area of expertise, and four suggested the interaction is and should be treated as both.

It is, in reality, something of both. Much research in the health and medical field shows that direct, skills-related mentorship of junior faculty by senior faculty increases research productivity (82,105–107). However, the investigator was unable to find any studies exploring attitudes toward mentorship of *senior* faculty in processes of research unfamiliar to them. This scenario often more appropriately describes the Author Assist partnerships, as reported by ten of the total interview respondents. Authors are new or have very little experience with successful publication to international standards, but they are subject matter—as well as unequivocally setting—experts, and they contribute this expertise to the partnership. The senior/ junior model is therefore only half the story. Author Assist fits better into the framework of multidisciplinary collaboration, as defined by Columbia University’s Department of Collaborative Science:

*“Collaboration has been intrinsic to the research process for the past 50 years, but collaboration per se usually refers to researchers who work within the same discipline, either within an institution or in different institutions... Multidisciplinary research is a form of collaborative research that involves researchers working across disciplines, either within an institution or in different institutions.” (108)*

This still, however, does not encompass mentorship, and the investigator could find no research indicating that such a “collaborative mentorship” model has been previously studied. However, findings from this study suggest that that model is indeed the most appropriate and productive strategy for the programme. Care needs to be taken by both the journal and volunteer assistant to recognise referred authors as potentially experts in their field, and treat the partnership as a two-way exchange of information, rather than an imparting of knowledge from a senior to junior. It is also crucial to respect that health research within the context of a low- or middle-income African setting *should* be different than from within the context of a high-income, highly developed Western medical system (64,109).

Interview results show that the process was more rewarding for assistants, and communication was better, when this recognition occurred. One assistant, for example, likened the division of work as similar to a “senior faculty mentoring a junior faculty”, but then went on to explain that he “knew really very little about what the paper was actually on...”

*“... and so I learned a lot. These guys I worked with were really great at explaining their context to me, and it was really fun for me being involved in something I would never have been otherwise” (Au3,77)*

A similar theme is assistant background. Several of the participants maintain that topic expertise is not necessary for assistants, simply a medical research background and strong publication record. One author went so far as to say “subject expertise was irrelevant”:

*“I did not need help with cardiology, I needed help with writing. But I think you do need a medical background, because of the language. Most important are the medical and publication background.” (Au3.7)*

At the moment, AfJEM asks volunteer assistants to provide a list of topics in which they have knowledge or experience, and a list of research areas that interest them. When commissioning an assistant for a new manuscript, these topics are taken into account, but quite broadly. Topics, for example, include “education”, “trauma”, “paediatrics” and

“research”, amongst many others, and assistants list anywhere from 10-20 topics. More effective matching, the interviews suggest, could occur by having assistants list types of publication support, rather than research area. Following the screening of a manuscript by the journal to determine required workload—the “quote”—AfJEM could reach out to potential volunteer assistants who have expressed an interest in assisting with presenting statistics, or with making minor language edits, or with overhauling the paper structure, whatever is required. This system would potentially ameliorate many of the issues regarding matching, brought up by themes under both the Expectations and Role of Assistant and Author categories.

Such a system would also likely be effective with the division of manuscripts amongst multiple assistants, a theory proposed in section 4.3.9. As Table 17 shows, some participants feel that a more conveyor-belt process of assisting could allow for more thorough contribution of assistants. They would be involved for a shorter length of time, can choose to specialise in an area within research and publication that interests them most, and would be able to focus on a particular aspect of revision. The challenge with this, of course, is the additional administrative requirements on the part of the journal, as well as the differing and potentially conflicting strategies in revision of the assistants. There are multiple correct ways, for example, of organising a narrative report on a country’s emergency care system. If the person commissioned to address language and translation issues suggests changes that counter those of the previous assistant, the mediation process causes delays in overall processing. The process, in addition, may not always be linear, with structure and presentation revision more effective if addressed simultaneously with referencing or grammar. Level of enthusiasm for this potential multi-assistant structure seems to be divided between authors and assistants. The authors who initially suggested it were backed heartily by part two interviewees, while assistants acknowledged the possibility but with a greater degree of hesitation, and some doubt that such a structure was either feasible or beneficial.

In terms of workload and workload ratio, every single respondent said that their assistant had done sufficient work to deserve authorship. A full restructuring is more work than peer review, and takes more time. Nobody, including the three assistants interviewed, suggested the division of work between author and assistant was unfair or poorly managed. As all commissioned manuscripts are completed or nearly completed prior to Author Assist, the workload necessarily lies more heavily on the author, with the assistant providing

resources and ideas for making the necessary edits. No other method for dividing the workload was suggested.

#### 5.2.5 Additional author involvement

Authorship is a critical consideration for the journal from a number of angles. Assistant authorship will be discussed under the “Motivation and Incentives” theme, but involvement of other authors and institutional supervisors, as well as the hierarchical rules governing the African research landscape, will be discussed here.

First of all, every manuscript to have gone through Author Assist lists at least two authors, but no one interviewed for this study report communication by any other author with either the journal or the assistant.

It was put forward by one author interviewee that, because other parties are always involved, “they also required some changes because their names were going to be on it.” The question that comes of this is whether formal processes for communication between the journal or assistants and *other* authors should be incorporated. Four respondents said approval from their institution and supervisor (regardless of authorship stance) should occur at the end via communication solely with the corresponding author, and three others said that input and approval should occur toward the end of the process but through direct communication with the author *and* assistant, as in via group emails.

However, participants also all expressed concurring sentiments in regard to overall journal involvement, agreeing that it should be a “hands-off” process, strictly between the assistant and author unless an issue arises. This one-on-one process enhances the success of Author Assist by streamlining the process for the author, rather than requiring them to juggle communications between the assistant, the journal, and their colleagues. Perhaps the best course of action, in that case, is to recommend a more formal stepwise process for revision that includes a single step in the final stages pre-submission for considering all authors. This would allow author and assistant to work unimpeded by outside intervention, while increasing awareness of authorship rules as well as perhaps further easing pressure on the corresponding author to be the sole liaison between the journal entities (including assistants) and institutional co-researchers who will regardless be represented in the publication.

In a similar vein, five respondents said their head of department must always be listed on the paper, regardless of their involvement. One interviewed author and one assistant discussed the existence of rigid hierarchy within the local institutions, often

governing authorship. The assistant in particular expressed his awareness of *“a culture of everyone in the department of getting their name on the paper, many of whom had absolutely nothing to do with it at all.”* Several recent studies have looked at differences in responsible conduct of research practices in different cultural contexts. In some contexts, according to one article, it may be deemed appropriate or even required to give authorship out of respect to senior colleagues, precisely what the assistant and author in this study allude to. This runs counter to norms endorsed by the International Committee of Medical Journal Editors (ICMJE) and other guidance documents (110,111). Without disregarding cultural norms or the unique context of African research, the desire to contribute to well-regarded scientific literature comes with the responsibility to adhere to standardised ethical guidelines dictated by the international research community.

The interviewed assistant said that ethics surrounding authorship is “something that needs to be learned”, and current research recommends more stringent attention to ethical allocation of credit. This can be ensured by boosting the policy base on which authorship guidance stands: conducting research on fair practice, and creating more guidance documents taking the low- and middle-income country climates into consideration (110,112,113). Smith (2014) also recommends introducing responsible research education into graduate curricula, as it is something researchers will likely encounter early in their careers. AfJEM, which follows ICMJE guidelines, could offer additional resources specifically addressing issues relating to hierarchy and culture in the African acute care research landscape.

#### 5.2.6 External resources (barriers and support)

Table 11 lists the resources utilised by authors while participating in Author Assist. The list itself was generated by the in-depth interviews. Interviewees were also asked to go into some detail on the means by which they went about learning the process of revision and publication, as well as what barriers to resource access exist in their research environment. Several themes emerged from this. One is the idea of “hunger in the midst of plenty”. Two of the interviewed authors, one from West and one from East Africa, say that sufficient resources are actually available for medical researchers, but early career researchers in particular are generally unaware of their existence. HINARI Access to Research in Health Programme, for example, is a World Health Organization programme that grants free access to over 15,000 biomedical and health journals and other resources to scientists in low- and middle-income countries (77). Both authors mentioned HINARI as a hugely useful resource, but “a lot of people they don't even know of HINARI, basically a free access to...



publications which is for people in Africa.” And “although there could be some resources available, people may not even know about these resources. It is not only those who don't have university-- they are part of it—but others, too”. This points to a gap in the educational system and mentorship. When authors were asked why people don't know these resources exist, they agreed, citing a lack of formal introduction or use within graduate curricula, and a lack of one-on-one support from more senior colleagues or supervisors. Author Assist therefore provides the crucial service of filling in this supervision gap, and assistants should be wary of the potential lack of knowledge of existing opportunities and resources for their authors. The interviews therefore suggest that this direct transfer of knowledge, in addition to skill, plays a role in the ultimate success of the referred (and subsequent) manuscripts.

The other important theme is an actual lack of publication support and editing services in these low-resource environments (36,64). As discussed by one author, residents in his country are not affiliated with a university, and are therefore not able to access university resources, requiring them to rely on international development initiatives such as HINARI, which of course requires knowledge of the existence and purpose of such initiatives. Another author works in a war-torn country whose affiliated research institution has been abandoned by international collaborators and senior faculty due to safety concerns and infrastructural challenges. Her thoughts:

*“Researchers in the hardest environments have the least help—sometimes that is a fact. But if we are going to advance our careers and make the world know what is happening here, we must find ourselves our own help from outside resource.”*  
(Au4.11)

Both of these themes and the barriers they encompass have been reported in studies of challenges to increasing research output in sub-Saharan Africa (79,114–116). A study of medical schools in Africa asked respondents to list the biggest challenges to research from within an academic institution. The results reveal that issues with retention and development of faculty leave schools with an overall younger faculty cohort who does not have the training or mentorship resources to compete successfully for funding. They are supervised by a shrinking cohort of older, experienced researchers who do not have the means, or simply the manpower, to provide adequate levels of mentorship or research opportunity for all. The middle generation, in between these two cohorts, has been severely affected by the global medical brain drain, fracturing the cycle of ongoing research (39,41). Nearly all of the 105 institutions surveyed report faculty shortages, which increase teaching burdens of individuals and restrict research time (114). If one can conclude-- based on recent

literature-- that publication is underrepresented as a component of research development in low- and middle-income countries, a rather bleak picture emerges of the landscape in which African acute care researchers must establish their career. It is within this picture that Author Assist addresses both themes through introduction of resources to authors by assistants, and provision of this crucial mentorship.

Furthermore, information is offered in a way unique to other research and development initiatives, because the transfer occurs through direct human interaction. Although they are on different continents, partnering with an assistant directly mimics supervision by a senior colleague at the author's research institution, rather than any sort of remote resource access. The information conferred by the assistant is specific to the particular author's context and focuses only on the manuscript at hand, a luxury not offered by, for example, a free PubMed subscription. When asked to rank the helpfulness of the types of resources available to researchers (table 11), "Resources from your place of work or study" and "Direct communication with other supervisors or colleagues" had the least "very helpful" responses. The primary response for most other categories was "very helpful" or "somewhat helpful". These results do support those of the other research on barriers to publication, suggesting that Author Assist fills a gap in provision of support that is not available from the authors' institution.

#### 5.2.7 Method of communication

There is little to discuss regarding the method of communication between authors and assistants. All participants in this study communicated with their partner solely via email, passing a "track changes" version of the manuscript back and forth between them. Because journal manuscripts are necessarily written documents, a visual tool is necessary for revision. There are no suggestions for reasonable alternatives to this method, and no expressed need to suggest improvements. Track changes allows both partners to see current and previous versions of the manuscript, incorporate revisions systematically, and comment on each other's work without editing it. It also occurs in Microsoft Word® (Microsoft Corporation, Redmond, WA) or any comparable word processing programme, making the method appropriate for low-resource settings. There are relatively few barriers to access of computers with word processing capabilities for anyone attempting international publication of medical research, and the method does not require even frequent internet access (117). Simultaneous editing, such as that available with Google Docs (Google Inc.,

Mountain View, CA), relies on a constant connection and heavily consumes data, making it unnecessarily expensive, unreliable, and/or impossible for some African scientists. A 2011 report found that the internet penetration rate in sub-Saharan Africa significantly lags behind other areas. High-income countries that year had an average of 73% penetration, while low-income countries averaged 26%. Sub-Saharan Africa was even less, with the Democratic Republic of the Congo, Niger, Ethiopia, and Liberia, for example, all reporting less than 1% (118).

A single author suggested a teleconference or phone meeting *prior* to beginning the partnership, as a way of introduction. Although attitudes toward journal involvement (“hands off”) and type of communication (“email only”) in this study suggest it may not be well received by all participants, a face-to-face meeting between author and assistant may improve their rapport throughout the process. Several authors and assistants report having met their partner much later, at conferences or meetings: “It was very nice to meet my mentor. We took pictures!” Perhaps encouraging this meeting early in their interaction would foster more personal investment on the part of both people, and ease frustrations that tend to arise later, such as those relating to delays in responding. A study on interpersonal communication training for collaborative teams working via computer-mediated communication systems supports this notion, noting that creating relational links in people who rarely meet face-to-face greatly increases communication effectiveness (119).

#### 5.2.8 Motivation and incentives

While practice regarding authorship of authors’ supervisors and colleagues is often murky, there seems to be no question of authorship credit for assistants. When asked if the assistant should have been listed as an author, all participants replied in the affirmative, often emphatically with responses such as “definitely!”, and “of course; there was no need for discussion about that”. Although this may be due in part to the culture of rather liberal authorship allocation in African health care research (as discussed in section 5.3.5), by all accounts the authors’ involvement with the manuscripts does fulfil the ICMJE criteria used by AfJEM. ICMJE recommends that authorship be granted if the following four criteria are fulfilled:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND

- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. (111)

If compared to those types of provided assistance (Tables 8 and 9) reported by participants, and the reported ratios for workload between author and assistant, authorship is unequivocally warranted.

Authorship is not, however, high on the list of reasons for assistant participation in the programme. Although certainly a tangible benefit of participation, assistants more frequently listed motivations more in line with belief in the value and merit of the programme, and desire to be involved with something “fun” and “rewarding”. In recruiting future assistants or advertising the volunteer programme, AfJEM could focus on these more personal incentives while explaining that authorship, as a “fringe” benefit, is virtually guaranteed due to the nature of the assistance.

One of the primary incentives for participation of *authors*, on the other hand, seems to be linked to the opportunity to collaborate with an expert from a recognised international institution. Two authors mentioned “including an experienced author on the list” as a benefit of Author Assist, matching the notion put forth by Hofman et al. that international journals may be targeted preferentially because they are associated by researchers in many areas with quality and visibility (64).

To simply get published, or learn about the process to be able to publish independently in the future, are other reasons cited for participation in the programme. In the “publish or perish” landscape in which acute care researchers live, just as with all researchers across the globe, Author Assist could serve as a sort of career “spring board” to introduce young authors—particularly those who are not privy to institutional resources or formal publication training—to methods for successfully navigating the writing and submission processes. This saves time in preparing future publications, arms them with knowledge of the system, and allows for transfer of this knowledge and experience to others in their workplace. By being affiliated with a particular journal—the only journal for African emergency care—Author Assist gives this broad introduction to the publication process while also very specifically demonstrating how to successfully publish in the journal most suited to these researchers’ areas of expertise. Author Assist has of course offered these

incentives since its creation, but participation is still most often a reaction to rejection, rather than a standard pre-submission procedure.

#### 5.2.9 Author challenges

As reported in section 4.3.7, the only themes brought up by interviewees when specifically asked about challenges encountered with the programme are the amount of time it takes to complete a single commission, and balancing outside workload with revision of the manuscript. The two are invariably linked. Both assistants and authors cite delays in passing an edited manuscript back and forth, and were more likely to shoulder the blame for the delays themselves, rather than putting it on their partner. This is indicative of outside causes for delay, such as other professional or personal demands, rather than any issue with internal communication or the process itself. When specifically asked if participants believed their partners were frustrated by delays in responding, all four of the interviewed authors replied in the negative. They rather believed that the partner assistants were “very understanding”, and interviews with the several assistants revealed that the assistants believed they were just as much cause of delay.

Only half of the seven people acknowledging this issue believe that something could be done about it. Their suggestions include “make deadlines for each person to respond”, and “journal asks more how the process is going”. No formal progress report system currently exists for the journal to track individual submissions. Approximately twice a year, members of the journal staff contact assistants and authors for all outstanding commissions, simply asking for an update. The primary incentive on the part of the journal for requesting these updates is—aside from knowing of any impending submissions—to know if manuscripts are still being processed, or if they have been removed from the programme, which, again, only occurs informally between author and assistant. The study participants’ recommendation for the journal to request more frequent status reports could spur quicker turn-around by keeping Author Assist more at the forefront of the partnership’s mind.

The other recommendation put forth by participants is the introduction of artificial timeframes. Due date pressure is an effective way of ensuring timely results, and psychological procrastination studies show that this technique is effective even if the subject is fully aware that due dates are artificial, as long as it is combined with some degree of social pressure or expectation (120). If a colleague or client is relying on the completion of a project by a certain date, even if the date was initially arbitrary, the subject is much more likely to

complete it. Furthermore, if two projects of equivalent workload are assigned one shorter term and one longer term due date, the one with the shorter working timeframe is more likely to be completed, and more likely to be higher quality than the one with the longer timeframe (121,122).

The other challenge with Author Assist is the need to balance outside workload, including education, employment, and personal commitments, with participation in the programme, and authors note that this tends to be exacerbated by the average lengthy timeframe. Extra time allowances that may have been granted for research and writing are not extended to include Author Assist when it occurs after initial rejection of a manuscript. Completion of the manuscript is therefore only possible if, as one author puts it, “it becomes a hobby—and we are not all lucky enough to have time for hobbies”. The “publish or perish” culture, and expectations of supervisors or department heads, becomes irrelevant if the author simply, physically, does not have time for revision. A study of Australian early career researchers concluded that the most important factor hindering transition from “apprentice” to “colleague” within the academic research context is lack of time for dedicated research, something that is considered a luxury granted only to those who have made it *past* the transition phase (123). These sentiments were expressed by authors who did complete Author Assist, as a challenge not completely impossible to overcome. A second, future study could look at this as a reason for not participating or not completing the programme.

In terms of actually imposing artificial timeframes on commissions, this outside workload would need to be taken into consideration. One assistant suggests perhaps giving each person involved the *option* of requiring his partner to finish within a certain timeframe, if he feels as though the turnaround is taking too long. With the psychology of social pressure and task completion (120), perhaps a better model, taking into account the themes arising from the interviews, is to require each partner to put forth and then adhere to his own deadline. Upon an assistant receiving a draft from the author, for example, the assistant must respond with the date he will return the draft with his edits. This forces the participants to be upfront about their level of commitment to the process by establishing accountability, and gives the recipient a very clear idea of what to expect, perhaps easing frustrations caused by simply “not knowing” the status of the manuscript. It also allows an individual to dictate deadlines based on knowledge of his own flexing workloads, rather than a third party (the journal) attempting to set deadlines based on guesses of appropriate timeframes.

#### 5.2.10 Outcomes (effects of Author Assist on future career)

Author Assist operates with the aim of benefiting multiple tiers of the publication system. It provides the journal with a means of increasing high quality output of local research by local researchers. It serves these local researchers by providing knowledge and training of a system that for many early career scientists, disadvantaged or otherwise, is difficult to navigate. It also supports system-wide development of emergency care research in Africa when a successful outcome spurs further research activity, and successful participants take on leadership and mentor roles in their place of work.

Through the interviews, this study attempted to characterise the effect of Author Assist on future research activity, publication success, and how successful completion of the programme has shaped researchers' roles within their research institutions. Seven of the eight survey respondents who answered said that they have been published in a peer-reviewed academic journal since participating in Author Assist. One has not yet published again, but plans to submit soon, and not a single respondent reported having other manuscripts rejected. All three of the part one interviewees who have completed the process have successfully published as well. These figures are imprecise but compelling, and could easily prompt additional studies looking into the effect of Author Assist on quality of research output, in addition to simple number of scholarly articles. One thing that is clear is that authors learn something by participating in Author Assist that is not gained simply by "trial and error" of submission. Authors not only greatly increase the likelihood that that referred manuscript will ultimately be accepted, but are able to apply lessons from the revision process to future research activity.

Eight of these lessons were identified by the in-depth interviews. They include a realisation that asking others for help is always an option (*"there are people who've done it before, and you can always count on them for help. And you can also ask the journal."*); that journals have rigid formatting requirements (*"look at what the journal requires, instead of you trying to come out with your own"*); and a number of specific skills regarding manuscript presentation (*"grammar...pacing...referencing"*). Results from the part two interviews categorically align with part one themes, with at least three of the ten respondents agreeing with each of the eight lessons. The only exception is *"How to maintain consistency"*, which a single responder reported. In particular, the majority of authors agree that *"How to restructure a paper"* and *"look at journal requirements before beginning"* are things they took away from Author Assist participation, and there were not any additional lessons brought up by respondents that did not appear in the initial interviews.

All of these lessons together paint a bigger picture of the breadth of the gap in publication capacity across Africa. For just five manuscripts, authors cited difficulties or lack of knowledge ranging from technical aspects of creating scientific literature, to conventions of presentation, to basic language use. However the results also demonstrate the power of Author Assist to affect broad developmental change. The programme spans a single component of the research process: publication support. But within this otherwise neglected component are myriad “quick fix” educational opportunities that introduce authors to skills they can apply— with limited further intervention and apparently great success—to future publication efforts.

Four of the authors in this study said they have taken on a mentorship role specific to publication since participating in Author Assist. The duties reported by the authors mimic those offered by assistants in Author Assist, and help address the gaps self-identified by the author participants in their home institutions. The roles in particular include assisting with location of resources (background, literature review, and referencing) and reviewing specific journal guidelines, in addition to wider research mentorship such as study design, data collection, and analysis. The realisation that this “pay it forward” process is occurring as a result of one-time participation in Author Assist is extremely encouraging, as it suggests a sustainable, organic solution to the problems Author Assist was established to address. Furthering the career of a single acute care researcher has an impact on that individual as well as his community as long as he is practicing, but giving an individual the tools to disseminate knowledge and skill to all members of his local cohort is exponentially more productive. Further studies should look at the success of these beneficiaries of volunteer mentorship without having gone through actual Author Assist themselves. Demonstrating that a single Author Assist partnership in fact positively affects publication outcome of multiple people would show an Author Assist-initiated shift from strictly international collaboration to local, internal production of high-quality research output.

#### 5.2.11 Programme improvements: wider contributions

Every author said that they would participate in Author Assist again. Many suggestions arose for potential tweaks to the programme that would increase success rates as well as standardise the process. These, discussed throughout the other sections, include improving the matching process for assistants to manuscripts thoroughly characterising the type of assistance needed on a per-manuscript basis, providing resources on ethical



authorship rules, and addressing challenges arising from the amount of time and energy required to revise and resubmit.

The interviewer asked all respondents how they feel Author Assist should be trying to help within medical research development in sub-Saharan Africa. In response, several suggested the broadening of the scope of services AfJEM offers. A more “research assist” process than “Author Assist” that encompasses publication support as one component would have a much wider catchment of new researchers: those who need assistance with study design, proposal drafting, data collection and analysis, initial writing, and then, finally, publication support. Restrictions on eligibility to participate would be limited to African researchers with a particular emergency care interest, whose work would fit within AfJEM’s scope for publication.

One author remarked that he thinks this expansion of services is an appropriate thing for AfJEM to work toward because of the availability of vast quantities of untouched data available within African acute care research. The collection and management of primary data sets on any number of presentations, treatments, and general situations in sub-Saharan Africa have yet to be tackled, and are essential for appropriate policy, educational, and infrastructural development. The author’s idea, in response to this climate, is to

*“...have different levels of Author Assist: The person who has submitted can be a different level, the person who has an idea can be at a different level but does not know how to start; the person who does not have any idea at all-- -- because the whole idea is to get publications on Africa. We can help them get ideas-- those who have ideas to how to gather data. Those who have data on how to write. Those who have written on how to polish it. So I think it is a whole spectrum of trying to help people write from Africa. That is what I think the Author Assist should be looking at now.” (R1.27)*

While easy to dream about, the implementation of such a multi-tiered programme would require heavy administrative investment on the part of the journal. It would also put the power of dictating research output to a larger extent in the hands of the journal, and potentially result in conflict of interest, if journal affiliated researchers are at the wheel for every step of a project created for publication in AfJEM. It is not for this investigator to say whether such a broadening of AfJEM’s involvement in research output is possible or sensible. However, the core mission of the journal is to improve quantity, quality, and visibility of emergency care research coming out of Africa. This requires knowledge of the

full research cycle, which in turn suggests the necessity of collaboration with other initiatives whose focuses are not specifically publication. A better working relationship with other resources addressing the rest of the process could only enhance AfJEM's effectiveness within its journal-specific, revision-specific niche.

## Chapter 6 - CONCLUSION AND RECOMMENDATIONS

### 6.1 Further research possibilities

There are multiple possibilities for further research that would address limitations to this study, and others that would build on its findings. A significant limitation of the study is the lack of focus on the entire cohort of authors whose manuscripts were rejected for publication but did *not* choose to participate in Author Assist. The study cannot draw conclusions on reasons for not accepting referral to the programme, and an additional study with similar scope and methodology could specifically target these authors. A related group are those who initially accepted referral and enrolled in the programme, but were unable to finish or resubmit. A qualitative look at reasons for rejection or removal could provide valuable insight into barriers to publication in low-resource areas from an opposite angle, and further inform programme improvements.

A second research possibility could look at time and external commitments as either barriers to participation in the programme, or to publication in general. This study, due to the limited sample size, is not representative of a larger community, but simply applicable to a transfer of settings. Expanding the study beyond emergency care clinicians publishing in a particular journal-- to explore external challenges to low-resource publication of a broader researcher population-- could potentially better inform institutional and policy decisions on granting time and resources to individual researcher development.

In a similar vein, further research could build upon the results of this Author Assist analysis to explore the success of participant beneficiaries of indirect mentorship: those recipients who received training or support from past Author Assist authors. Such a study would essentially look one layer further in the mentorship scheme, to describe the scope of benefit of the programme beyond the direct participants. This thesis presents multiple cases in which professionals who have revised and resubmitted through Author Assist have then assumed mentorship roles in their place of work, both through direct assistance to junior colleagues, and through recognition of the necessity of expanding publication resources and training. To characterise the extent of these efforts could afford a significant boon to development efforts.

Finally, this thesis presents numerous suggestions for ways Author Assist might enhance publication success with AfJEM. Further development of these suggestions followed by pilot implementation are potential projects that could arise as a direct result of these interviews with past programme participants. The “conveyor belt” model of

assistance, changes to the partnership matching process, and various recruitment strategies are all low-cost tweaks that, if conclusions drawn from this study prove true, will improve Author Assist's ability to reverse negative publication decision.

## 6.2 Conclusion

The purpose of this thesis was to characterise the components of Author Assist that were perceived by authors and their assistants to contribute most to successful publication outcome. An understanding of the general proceedings of the individual partnerships was a necessary first step to then inform the method for elucidating reactions to the process. The aim was for an understanding to emerge that will allow the journal to facilitate better overall experiences with the programme as well as higher publication rates. Author Assist participants already have a markedly higher publication success rate than those who submit independently to AfJEM, and this study shows that lessons learned from participation in the programme are transferrable on an individual level to future research practices.

The in-depth interviews conducted as part one of the study portray a fairly consistent process for revision and resubmission, despite a lack of standard operating procedure or journal-governed guidelines for either author or assistant. This suggests a best-practice method that is easily and organically identified, and works well for most partnerships. The modes of communication and degree of interaction of the journal, ability to interact one-on-one with knowledgeable and reputable international partners, and high degree of confidence in the ability of the programme to reverse publication decision are all factors influencing successful publication following Author Assist. One of the most encouraging results of the study is the finding that one-time participation in the programme positively affects publication rate for the same author in the future. Exposure to publication-specific resources and coaching on how to best use them, familiarity of the process required by the journal in which African acute care researchers are most likely to publish, and confidence that their work can be disseminated to a high-quality international audience all seem to influence future publication success.

This comprehensive understanding of Author Assist has unlocked myriad other doors to provide tools for improving publication performance outcomes. Suggestions for improvement to the programme include strategies for increasing effectiveness of the process that already exists, as well as for expanding of the scope of the programme by reaching out to a wider research audience. There is little current literature on publication in

low-resource environments, and even fewer development initiatives. What does exist and is relevant to the African medical context endorse the conclusions drawn from study: African emergency care workers are eager and personally able to strengthen their scientific output to better their community and grow their career. They face significant hurdles to research and publication, often including lack of formal education and direct mentorship in research; lack of access to international publication resources or training on how to use them; and difficulties in penetrating and then fitting into an international research culture vastly different from their home environment. Author Assist addresses many of these issues through its use of peer-peer mentorship and low-cost allocation of human resources. The programme reverses publication outcome of the majority of referred manuscripts while effectively strengthening the cohort of African scientists contributing to Emergency Medicine development despite their inherent challenges.

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## APPENDICES

### APPENDIX A: Participant consent form

#### **Consent for Participation in a Research Interview**

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#### **Exploring the factors underlying successful publication after participation in an Author Assist service**

I agree to participate in a research project led by Dr. Stevan Bruijns from the University of Cape Town in Cape Town, South Africa. I understand that the project is designed to gather information about experience with the African Journal of Emergency Medicine (AfJEM) Author Assist program, in which I have participated at some point in the last five (5) years. I will be one of approximately 30 people being interviewed for this research.

- 
1. I have been given sufficient information about this research project. The purpose of my participation as an interviewee in this project has been explained to me and is clear.
  2. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.
  3. I understand that if I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.
  4. I understand that participation involves being interviewed by researchers from the University of Cape Town. The interview will be audio only and last up to one (1) hour. Notes will be written during the interview. An audio tape of the interview and subsequent dialogue will be made. If I do not want to be taped, I will not be able to participate in the study.
  5. I understand that the researcher will not identify me by name in any reports using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will

be subject to standard use policies that protect the anonymity of individuals and institutions.

6. Journal staff other than researchers on this project, including assistants directly involved in my Author Assist process, will neither be present at the interview nor have access to raw notes or transcripts, so as to prevent my individual comments from having negative repercussions.
7. I understand that this research study has been reviewed and approved by the UCT Faculty of Health Sciences Human Research Ethics Committee. The Committee can be contacted on 021 406 6338 in case participants have any questions regarding their rights and welfare as research subjects on the study.
8. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
9. I have been given a copy of this consent form.

---

My Signature

---

Date

---

My Printed Name

---

Investigator's Signature



### **Information for Participation in a Research Interview**

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#### **Study title: Exploring the factors underlying successful publication after participation in an Author Assist service**

This document provides information on a research project led by Dr. Stevan Bruijns from the University of Cape Town in Cape Town, South Africa.

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#### **What is the purpose of the study?**

The project is designed to gather information about experience with the African Journal of Emergency Medicine (AfJEM ) Author Assist program through interviews with approximately thirty recent program participants. It aims to determine which specific parts of the process have the greatest impact in publication outcome. The information gathered from the study will be used to improve the program and create standardised ways of requesting and offering assistance.

#### **Who is being interviewed?**

Everybody invited to interview has participated to some extent in AfJEM's Author Assist program in the last five (5) years. The study is looking to paint a broad picture of participants' experiences to be able to identify specific ways to improve the program for future participants. Interviewees include authors, author assistants, and several journal staff and board members. Approximately thirty (30) people will be interviewed in total.

#### **How will the study work?**

The study will be conducted in two parts. The first involves interviewing of up to six (6) authors or author assistants to learn about the overall Author Assist process from a variety of perspectives. Anybody who is selected and volunteers to take part in this step will be interviewed alone via phone or Skype by a single interviewer. It will take at least thirty (30)

minutes, but no more than one (1) hour. The interview will be audio recorded and transcribed, and notes will be taken.

The second part of the study will involve shorter interviews with up to twenty (20) participants. These will once again occur via phone or Skype by a single interview, and ask questions about specific parts of the Author Assist process, particularly on how different steps of the process can be improved. These interviews will take approximately twenty (20) minutes, and no more than forty (40). The interview will be audio recorded and transcribed, and notes will be taken. It will be very clear to all participants which step of the study they are invited to participate in. For most participants, only one interview will be requested. However, if the researchers identify the potential of collecting additional important information from a participant who has already interviewed, that participant may be approached for a follow-up interview. The participant has every right to deny additional participation.

#### **How will confidentiality and the protection of participants be ensured?**

Participation in this study is completely voluntary. Everybody who agrees to participate understands that they may back out of the study at any time, without penalty, and all data relating to their participation will be destroyed. The interviewer will take notes during the conversation, and all interviews will be audio recorded. If any participant does not want to be recorded, they will not be permitted to contribute. However, names and other personal identifiers will not be included in the transcriptions. All data will only be available to the research team, and audio recordings will be destroyed after transcription. Reports of study findings will not include any identifying information. Journal staff other than researchers on this project, including assistants directly involved in the participant's Author Assist process, will neither be present at the interview nor have access to raw notes or transcripts. However, it is very important to note that while the researchers will make all reasonable attempts to protect participant privacy and anonymity, such protection cannot be 100% guaranteed. Participants always have the opportunity to decline answering a question but continue with the rest of the interview, to discontinue an interview, or to withdraw from the study.

#### **Are there any risks to participating?**

The researchers anticipate very few risks to participating in the study. The sole purpose of the interviews is to gain an understanding of a professional interaction of the participants, and questions are not designed to be overly sensitive or probing. However, some participants may feel discomfort or embarrassment during the interview.

**Are there any benefits to participating?**

There are no direct benefits for participating, and participants will not be compensated. The researchers hope to be able to improve Author Assist for all future participants, and increase the availability of Author Assist for African Acute Care researchers.

**What will happen to the results of the study?**

The results will be published to describe the Author Assist program as it has been conducted for the last five years, as well as to outline some of the proposed changes to the program based on information from the interviews. Participant contributions will also be used internally by the African Journal of Emergency Medicine to create a number of new documents outlining standard processes for offering assistance, seeking assistance, and interactions between authors and assistants.

**Contact:**

For questions or concerns about the research, participants can contact the Principle Investigator at any time: Dr. Stevan Bruijns, University of Cape Town Division of Emergency Medicine, [stevan.bruijns@afjem.com](mailto:stevan.bruijns@afjem.com)

Participants may also contact the researcher conducting the interviews: Megan Banner, University of Cape Town Division of Emergency Medicine, [banner.megan@gmail.com](mailto:banner.megan@gmail.com)

For any questions regarding rights and welfare as research subjects on the study, contact UCT Faculty of Health Sciences Human Research Ethics Committee on +27 (0)21 406 6338.

## APPENDIX C: In-depth assistant interview questions

Below is the list of questions used in the part one, in-depth interviews of assistants. Because of the semi-structured nature of part one, the flow of the interview was governed by the interviewee, not the interviewer. Questions were used as a guide, and prompts used to solicit more information on a particular theme if the interview felt the need for it to be developed further. Not all questions were asked of every interviewee.

Introduction (read):

\*Hellos....

The study is primarily interview-based, and this interview is one of several longer ones that are acting as a basis to inform much shorter, more structured surveys with hopefully a total of 10-15 authors.

The title, as you know is: Exploring the factors underlying successful publication after participation in an Author Assist service. The project is designed to gather information about experience with the AfJEM Author Assist program through interviews, and aims to determine which specific parts of the process have the greatest impact in publication outcome. The information gathered from the study will be used to try to improve the program and create standardised ways of both requesting and offering assistance.

Now then, can you please quickly state your name, where you work, and what you do?

Great, thanks \_\_\_\_\_. Now, I have also already sent you a consent form and info sheet, that state what the study aims to do, your role, and how this interview will be used. I am going to read off the important points of the form, and if you agree with all terms at the end, ask for your verbal consent.

CONSENT FORM:

Ok, your participation in this project is voluntary. You should understand that you will not be paid for participation, and may withdraw at any time without penalty. If you feel uncomfortable in any way during the interview, you have the right to decline to answer any question, or end the interview. This is a one-time interview that will be audio-recorded and transcribed. You will not, however, be identified by name in any reports using info obtained

from this interview, and Names of any other participant or colleague you mention in the interview will also be reported anonymously. However, please understand that while the researchers will make all reasonable attempts to protect your privacy, such protection cannot be 100% guaranteed. Journal staff other than researchers on this project are neither present now nor will have access to raw notes or transcripts produced from the interview. The study has been reviewed and approved by the UCT Human research ethics committee, and you have been given info on how to contact them, as well as the PI.

Do you have questions about any of that right now?

Ok, so \_\_\_\_\_, do you understand the explanation you have been given, and voluntarily agree to participate in this study?

Interview:

**First of all, do you remember when and how you first learned about AfJEM's Author Assist program?**

Prompts:

How was the program introduced to you?

How were you originally recruited as an assistant?

Was it in response to a particular commission?

Were you explicitly told, or did you implicitly understand, why you specifically were recruited as an assistant?

Would you share those reasons with me?

How was your role as assistant explained to you when you agreed to be involved?

Any written document/ MoU, etc.?

**What is your understanding of what AfJEM tries to accomplish via Author Assist?**

**Can you confirm that you have acted as assistant for \_\_\_\_ number of commissions?**

When?

**I now just want to get a good idea of what exactly happened between you, the author, and the journal throughout the process.**

**How well do you think you remember the process anymore?**

**Can you give me a very brief background—where was the author from, what type of manuscript, what was the topic?**

**How were you approached by AfJEM about taking on this particular commission?**

Prompts:

What were you told about what your involvement would entail?

Was anything specific regarding your incentives/benefit discussed before you began?

**What did you learn about the author from the journal, before making contact?**

Prompts:

Publication history?

Reason for being referred to author assist?

**Were you put in contact with the author before agreeing to assist? If so, how did that interaction influence your willingness to participate?**

**Can you describe your interaction with the author, and what the process involved?**

Prompts:

Do you remember how long you worked on the manuscript?

Were you involved all the way through to when it was accepted for publication?

How did you contribute?

How did you two communicate, and how much?

Was anybody from the journal ever involved, before resubmission?

Did your involvement end up more or less matching your expectations?

**Describe the resubmission process.**

**Were you granted authorship?**

What do you think should be the rules regarding authorship for assistants?

**Have you been in contact with the author since then?**

**How do the experiences with multiple papers compare to each other, in terms of the understanding you have of what author assist should be?**

**Do you think the degree to which you assisted each of the two authors was similar?**

In terms of type of help, length of time and extent of commitment?

**How have the two experiences shaped your thoughts on what author assist should be?**

What types of service offered, requirements to qualify authors, types of people authors and assistants should be, how much the journal should mediate?

**What were the most challenging aspects of each of the processes, and can you identify anything that flat out did not work?**

**What factors of the process had the biggest impact on the publication outcome?**

**Anything you can identify that would amplify those impacts? i.e. what easy things could be introduced as standardised components to author assist to improve its effectiveness?**

**In general, do you think the author assist program is a good idea? Do you think the benefits to authors and the journal outweigh the effort involved on the part of author, assistant, and the journal?**

**Is it the right way to be addressing gaps in ability of young researchers/people in developing countries to publish quality research?**

## APPENDIX D: In-depth author interview questions

Below is the list of questions used in the part one, in-depth interviews of authors. Because of the semi-structured nature of part one, the flow of the interview was governed by the interviewee, not the interviewer. Questions were used as a guide, and prompts used to solicit more information on a particular theme if the interview felt the need for it to be developed further. Not all questions were asked of every interviewee.

Introduction (read):

[Hellos]...

The study is primarily interview-based, and this interview is one of about 6 longer ones that are acting as a basis to inform much shorter, more structured surveys with hopefully another 10-15 authors.

The title, as you know is: Exploring the factors underlying successful publication after participation in an Author Assist service. The project is designed to gather information about experience with the AfJEM Author Assist program through interviews, and aims to determine which specific parts of the process have the greatest impact in publication outcome. The information gathered from the study will be used to try to improve the program and create standardised ways of both requesting and offering assistance.

Now then, can you please quickly say where you work, and what you do?

Great, thanks \_\_\_\_\_. Now, I have also already sent you a consent form and info sheet, that state what the study aims to do, your role, and how this interview will be used. I am going to read off the important points of the form, and if you agree with all terms at the end, ask for your verbal consent.

CONSENT FORM:

Ok, your participation in this project is voluntary. You should understand that you will not be paid for participation, and may withdraw at any time without penalty. If you feel uncomfortable in any way during the interview, you have the right to decline to answer any question, or end the interview. This is a one-time interview that will be audio-recorded and transcribed. You will not, however, be identified by name in any reports using info obtained from this interview, and Names of any other participant or colleague you mention in the



interview will also be reported anonymously. However, please understand that while the researchers will make all reasonable attempts to protect your privacy, such protection cannot be 100% guaranteed. Journal staff other than researchers on this project are neither present now nor will have access to raw notes or transcripts produced from the interview. The study has been reviewed and approved by the UCT Human research ethics committee, and you have been given info on how to contact them, as well as the PI.

Do you have questions about any of that right now?

Ok, so \_\_\_\_\_, do you understand the explanation you have been given, and voluntarily agree to participate in this study?

**Interview:**

**Can you tell me what you do right now?**

**What are your long-term career goals?**

**How well do you think you remember your author assist process?**

**Do you remember when and how you first learned about AfJEM's Author Assist programme?**

Prompts:

How was the programme introduced to you?

How were you originally enrolled? Was it of your own accord?

Were you explicitly told, or did you implicitly understand, why you specifically were referred as an author?

Would you share those reasons with me?

How was your role as author explained to you when you agreed to be involved?

Any written document/ MoU, etc.?

**How did you feel when your manuscript was rejected?**

Would you have tried to resubmit on your own, without Author Assist?

**What is your understanding of what AfJEM tries to accomplish via Author Assist?**

**Did you have any research or publication history prior to Author Assist?**

Prompts:

Had you published anything before you started this paper?

Did you try to publish the paper somewhere other than AfJEM first?

**When first enrolled, how confident were you that you could?**

How qualified do you think you were to be writing it?

**What other resourced did you have in publishing that manuscript?**

How did other people help you? How were they involved?

If Author Assist wasn't around, would you have had a lot of options for people or resources to turn to for help?

**How did you communicate with your assistant?**

Was it just via email?

**Can you go into more detail about what the author did, what his/her role was with that paper?**

How specifically did s/he help you?

**Do you know where she got the information to assist you? How she knew how to structure it? Where she got those ideas?**

**Before Author Assist, when it was written initially, was there some guide you used to structure it? Or did you just invent it?**

**What was the rough timeframe?**

How often were you in communication with the assistant?

How much work were the two of you doing on the paper before resubmission?

**Were other authors in contact with the assistant as well?**

**Did the assistant get authorship on the paper?**

Do you think s/he should have?

Was authorship something that was discussed before you started working together?

**Can you describe the journal's involvement with the process?**

Did the editor or anyone else from the journal communicate with you guys while you were working on it?

Or mediate at all?

**Can you think of any times you remember when it would have been helpful to communicate through the journal?**

Any issues with talking to the assistant, or times when it could have been more efficient if the journal had helped?

**What problems or real challenges did you encounter with the author assist process?**

**What do you think were the assistant's attitudes toward you, and toward the process?**

**What did you learn from the process?**

**How has Author Assist helped your ability to research or publish since then?**

Have you published again since then?

Can you identify specific ways that author assist has helped you with these later publications?

**The institutions where your residents are, what types of resources do they offer for helping young people, or people that don't have too much research experience submit for publication?**

**Where do you think Author Assist should fit in to that whole helping process?**

Do you think that AfJEM is helping researchers in the best way it can?

**How did participating in the process shape your attitudes about research?**

## APPENDIX E: Structured author interview questions

Below is the list of questions used in the part two, structured interviews of authors. Because of the semi-structured nature of part one, the flow of the interview was governed by the interviewee, not the interviewer. In part two, however, the interviewer did not deviate from the list of questions posed to authors. Every question was asked of every interviewee, and additional questions were asked only in case clarification was needed.

Introduction (read):

\*Hellos....

The study is primarily interview-based, and this interview is one of several with authors who have participated in Author Assist in the last five years. The questions I am going to ask you were formed based on longer interviews already conducted with authors and assistants, to find out what the Author Assist process is like. The purpose of this interview is to ask your opinion on the parts of the process, to help improve the programme.

The title, as you know is: Exploring the factors underlying successful publication after participation in an Author Assist service. The project overall is designed to gather information about experience with the AfJEM Author Assist programme through interviews, and aims to determine which specific parts of the process have the greatest impact in publication outcome. The information gathered from the study will be used to try to improve the programme and create standardised ways of both requesting and offering assistance.

Now then, can you please quickly state your name, where you work, and what you do?

Great, thanks. I have also already sent you a consent form and info sheet, that state what the study aims to do, your role, and how this interview will be used. I am going to read off the important points of the form, and if you agree with all terms at the end, ask for your verbal consent.

CONSENT FORM:

Ok, your participation in this project is voluntary. You should understand that you will not be paid for participation, and may withdraw at any time without penalty. If you feel uncomfortable in any way during the interview, you have the right to decline to answer any question, or end the interview. This is a one-time interview that will be audio-recorded and

transcribed. You will not, however, be identified by name in any reports using info obtained from this interview, and names of any other participant or colleague you mention in the interview will also be reported anonymously. However, please understand that while the researchers will make all reasonable attempts to protect your privacy, such protection cannot be 100% guaranteed. Journal staff other than researchers on this project are neither present now nor will have access to raw notes or transcripts produced from the interview. The study has been reviewed and approved by the UCT Human research ethics committee, and you have been given info on how to contact them, as well as the principle investigator.

Do you have questions about any of that right now?

Ok do you understand the explanation you have been given, and voluntarily agree to participate in this study?

## Interview

### Background:

1. What type of professional are you?
  - a. Prompts: Clinician, Researcher, Educator/lecturer, Corporate professional, student, other
2. What is your current job title?
3. What is your highest completed qualification?
4. Were you a student at the time of participating in Author Assist?
5. What is your country of citizenship?
6. In which country/ies did you receive your secondary education?
7. In which country/ies did you undergo tertiary education?
8. How many years has it been since completing your last education or training?
9. How many years in your current position?

### Author Assist:

10. Before beginning Author Assist, how confident were you that your manuscript would be accepted for publication?
11. After you finished Author Assist, how confident were you that the same manuscript would now be accepted for publication?
12. In terms of the initial process of matching an author to an assistant, what could be done to improve the process?
13. How important is a “good match” to the success of each individual revision?
14. In terms of the Memorandum of Understanding and any other initial agreements between author, assistant, and the journal, what could be done to improve understanding or make expectations clearer?
15. How can the level of commitment and amount of work be most accurately conveyed before beginning the process?
16. What should the author’s role be throughout the process?
17. What should the assistant’s role be?

How would you describe the nature of the relationship between author and assist

Appendix E (cont.)

- a. Prompts:
    - i. Teacher + Mentor (senior faculty and junior faculty)
    - ii. Equal division of tasks based on differing areas of expertise
    - iii. Combination
    - iv. Other?
  - b. What makes you say that?
18. Who else is involved in the process, and should the journal engage them?
  19. What other types of resources were available to you throughout the research and publication process?
  20. Does the journal provide enough information on access to research and publication support?
  21. What additional information or resources would you like to see the journal provide through Author Assist?
  22. Is the email-only method of communication effective?
  23. Should face-to-face (incl. Skype) interaction be suggested or required?
  24. Should the journal be more involved either before or during the process?
  25. Why did you decide to participate in Author Assist?
  26. Was authorship deserved by the assistants in each of the partnerships you were involved with?
  27. Should authorship be automatic?
  28. To what degree do timeframe challenges occur because of the structure of Author Assist, and to what degree are they external?
    - a. What can the journal do to address some of these challenges?
  29. Describe the challenges that exist with regard to the outside workload (education, employment, personal commitments, etc.) and participating in Author Assist?
    - a. What can the journal do to address some of these challenges?
  30. What did you learn about publication from Author Assist?
  31. What lessons from Author Assist have you incorporated into your career as a researcher?
  32. Have you successfully published since participating in Author Assist?
    - a. If so, by what means?
      - i. Prompts:
        1. Again with Author Assist

2. With the help of other free publication services
  3. With a paid publication service
  4. Without the help of a publication service
33. Have you assumed any mentorship roles within research or publication because of your participation in Author Assist?
34. What type of assisting should Author Assist offer? (great tongue twister)
35. How can AfJEM be more effective in addressing barriers to publication within the context of African Emergency Care?



**Excerpt from Author 2 (Au2) in-depth interview: [00:19:25 – 00:23:17]**

Interviewer (I): Can you then just talk a little bit—like go into more detail about what he did, like how specifically he helped you?

Participant (P): Yeah, so, I think the paper that I had written it was like a commentary, which was [57] **not really structured** into various subheadings. So when he looked at the first one that I submitted to AfJEM, and the comments, he actually [58] **helped me restructure the paper into various subheadings** and then, afterwards, it was going to be the content. So after the structure, then what had to go into it?[59] **What resources do we need to write, look at other references; [60] people who have also done similar things, and even for [my country]: look at our top ten diseases, goals for development, training of emergency medical—emergency medicine physicians and others.** So basically the structure of the paper.

I: Do you know where he got, like how he knew how to structure it? Where he got those ideas?

P: Well so yeah, he is [61] **published already** and also helped write the one for [a different country]. I don't know at the time—I don't think at the time it was still published, the other one, but it had been accepted by the journal. [62] **But he had this information already:** how to get accepted, yeah.

I: And before you were working with him, when it was written initially, what guide did you use to structure it? Or did you just invent it?

P: yeah yeah, so I decided to, because actually this was a novel way to write what do you call it— emergency care in [my country]—so I decided to go by my own subheadings and whatever I chose to. So it was my own... structure. It wasn't following any AfJEM—[63] **maybe AfJEM could have also given me a guideline and said “well, this is how you should structure this kind of paper” before I submitted, but...**

I: But it did not.

P: Yes, but that could, you know, have been put in place. Like now they've done for, what do you call... research papers and case reports and all that, but I think the one's for the countries, [64] **they did not have any specific structures** how you should go about it.

Appendix F (cont.)

I: Ok, interesting. And, what was kind of the timeframe when you were working with him? I know you said it took quite a long time, about a year, until it was published. But how, like how often were you in communication with him, and how much work were the two of you doing on the paper within that year?

P: yeah, so, I think the communication you are talking—we are looking at almost about 6 or 7 months. Because I am looking—so the email that I saw, the first one was in March, 2012. I don't know whether that was accurate, but then the last one that he asked me to send him the final draft was August. So I am looking about 6 months. And in between, so [65] almost every week, and sometimes—it [66] depends on my ability to finish all the edits, because I was still working as a resident. So either every week, or every other week we were communicating. So [67] I was sending him the corrections that he asked me to correct; he would do a track changes, and then I would send it back to him. But it depended, you know, on my availability to finish. [68] And that is why it took some time. Because sometimes as a resident, you are tired and could not do other work. That also took some time, you know, getting back to him. Because sometimes it would take some two weeks before I would submit the changes to him and then he would look at it again and do some changes.

I: Mhm, I see.

P: [interrupting] and the [69] time also, because then, you know, [70] we were not communicating with all the, what would be all the authors on the paper. So after we were done with him, then they also required some changes because their names were going to be on it. [71] But most of the work in structure and content were done by [the assistant] and myself.

**Excerpt from Author 3 (Au3) in-depth interview: [00:27:04 – 00:28:00]**

I: Ah, ok. If Author Assist or [your assistant] wasn't around, would you have had a lot of options for people or resources to turn to for help?


P: Yeah, I am sure there would have been a lot of back and forth with the reviewers, giving me—well I am sure there would be more to and fro the reviewers; I don't know how many times they would accept the reviews, but maybe eventually it would have gotten done. But I think this [67] Author Assist eliminates to and fro between reviewers and then the author, while somebody is actually—[68] because [my assistant] is an editor on her own right, and she knows what to expect.



3. Place next interview codes into existing themes, and create new ones as necessary

Appendix F (cont.)

**Part two coding:** Creation of questions from part one themes, and fitting of responses into categories by question

	Challenges Encountered		Method of communication					
	Outside workload	Lengthy timeframe	Track changes	Email communication				
Understanding and expectations	Role of assistants and authors	Additional author involvement	External resources	Method of communication	Motivation and incentives	Author Challenges	Outcomes	Programme improvements
Paperwork	teacher/student model	Number of authors per manuscript	AfJEM-provided resources	Track changes	Collaboration opportunity	Outside workload	Publication after participation	Broaden scope of services
Lack of formality at onset	collaborative model	Single author in AA communication	Help available from place of work	Email	"just to get published"	Lengthy timeframe	Lessons learned	Divide labour amongst assistants
More thorough matching process	combination model	Hierarchy in institutions	Direct communication in AA		To learn about publication process		Leadership/mentorin g after participation	More thorough triaging
Confidence in outcome	assistant authorship	Author serves as liaison	Direct communication with journal		To include esteemed author			Authorship education
Expectations for assistant			Direct communication with others		To be able to mentor in future			
			Independent study		To make resubmission more efficient			
1. To what degree do timeframe challenges occur because of the structure of Author Assist, and to what degree are they external?								
a. What can the journal do to address some of these challenges?								
Agree timeframe challenges exist			No issue with timeframe					
	7		3					
Make deadlines to respond								
Frequent updates to journal								
Nothing can be done								
2. Describe the challenges that exist with regard to the outside workload (education, employment, personal commitments, etc) and participating in Author Assist?								
a. What can the journal do to address some of these challenges?								
Agree outside workload is challenge			No issue with outside workload					
	5		5					
Junior faculty can't escape from heavy workload								
Attitudes of assistants								
Personal attitudes								
Nothing can be done								



## APPENDIX G: Author Assist Memorandum of Understanding



Supporting Emergency Care Across Africa

### **Author Assist: Policy, Author Agreement and Memorandum of Understanding**

It is the aim of the African Journal of Emergency Medicine to be representative of all parts of the African continent; we recognise within this that some African researchers in emergency care may be disadvantaged in the available range of journals into which they can publish their work. We are aware that this is due to many reasons, including that topics are concerned with conditions which are largely irrelevant to other audiences.

AfJEM is dedicated to supporting all authors who wish to make an attempt at publication on an African emergency care topic. In order to maintain and produce a high quality, international standard Emergency Medicine journal, AfJEM has devised *Author Assist*. AfJEM uses a team of experienced volunteers (*Author Assistants*) to help improve the quality of manuscripts before peer-review submission.

#### **General rules and regulations:**

- AfJEM's *Author Assist* functions independently from peer-review, and assistance rendered does not constitute an automatic indication of publication; it is rather a process to improve an author's chances in succeeding at peer review.
- A manuscript may be referred to *Author Assist* by the editor in the following instances:
  - on request of an author (either pre- or post- peer review),
  - on the advice of the editor in chief at the time of submission (if the author agrees to assistance) or
  - on the advice of a section editor following peer review (if the author agrees).
- By making use of *Author Assist*, authors agree to submit their revised manuscripts to AfJEM in the first instance.
- Reasonable measures are in place to ensure that peer reviewers and section editors are blinded to whether *Author Assistance* was provided. If a manuscript had been referred for *Author Assist* following peer review, the original peer reviewers may not review the manuscript when the manuscript is subsequently resubmitted. An *Author Assistant* may not be involved in peer review or section editing of a manuscript he/ she assisted in. In the case of section editing, the case will be referred to the international adviser or vice versa by the editor to maintain blinding.
- Published material will contain no reference to whether *Author Assist* was used.
- Responsibility for a manuscript rests with the principal author (who can not be the *Author Assistant*). Authors should complete the Memorandum of Understanding at the end of this document and submit this to the editor within ten days of being assigned an *Author Assistant* but before commencing the process. Authors should engage *Author Assistants* on a regular basis in order to avoid a protracted process. *Author Assistants* should endeavour to provide clear and succinct advice starting within ten days of the date of agreement on the memorandum of understanding. An *Author Assistant* may reasonably expect his/ her name to be included on the published manuscript as a co-author.

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- Should creative differences exist between the author and the *Author Assistant*, authors may request a replacement by writing to the editor, motivating why a replacement is necessary. The editor may contact the *Author Assistant* for clarification in order to make a decision. The editor's decision in this situation is final. An opposite scenario is managed similarly.
- Authors may withdraw from *Author Assist* at any time during the process and should inform the editor as soon as a decision has been made to withdraw. If assistance has already been rendered at the point of withdrawal an assistant may have a reasonable case to be included as an author. The editor's decision in this situation is final.
- Author Assistants may withdraw from *Author Assist* in exceptional circumstances and only with the explicit consent of the editor.
- English/ French Author Assistants are also available

The editors of AfJEM adhere to the ethical guidance provided by the publisher, Elsevier. Records for *Author Assist*, including peer review and editorial comments are maintained by the editors and are available for third party quality assurance and ethical conduct reviews on request.

#### **Author Assist: Author Agreement**

I, \_\_\_\_\_ (name and surname of author) agree with the *Author Assist* policy as set out above and apply for assistance in order to improve my manuscript for peer review.

I understand that *Author Assist* does not guarantee publication but will improve my chance at succeeding in peer review.

I understand that by making use of *Author Assist*, I agree to submit my revised manuscript to AfJEM in the first instance.

I understand that I may withdraw from *Author Assist* at any time during the process and note the policy details in this regard.

I would like to make use of a English/ French Author Assistant (tick to agree) ☐

Signature:

Date:

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**Author Assist: Memorandum of understanding**

(Complete and submit with your manuscript to the editor before commencing with *Author Assist*- [submissions@afjem.com](mailto:submissions@afjem.com))

**Author Assistant details (for office use):**

Name of assistant:

Country of residence:

Contact details:

- Telephone (including country dialling codes):
- Email:
- Preferred means of communication:

(To be completed by Author)

**Manuscript title:**

**Author details:**

Name of author:

Country of residence:

Contact details:

- Telephone (including country dialling codes):
- Email:
- Preferred means of communication:

**Outline of expectations and commitments:**

Please provide an outline of expectations set out in as much detail as possible.

Author expectations:

Author/ *Author Assistant* commitments (access to *author assistant*; timelines;  
(co)authorship of articles):

**Date of agreement (for office use):**

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